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Original Papers

PROBLEMS IN THE ADMINISTRATION OF STATE MEDICINE.

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Secretary State Department of Health, New York.

Read at the Annual Meeting of the Vermont State Medical Society, October 12th, 1916.

In presenting to you certain of the more important problems which have arisen and which constantly recur in public health administration, I shall confine myself rather closely to those with which I am most familiar; namely, those that are associated with the work of the State Department of Health under the direction of the present Commissioner, Hermann M. Biggs, and, incidentally, the New York City Department of Health, with which I was connected for a number of years through the Research Laboratory.

There are a number of problems in the administration of public health which are common to all the States of the Union, while each geographic group of States presents certain special problems, or rather the accentuation of certain common problems, due to varying climatic condition, habits of life and thought, and the predominance in them of certain racial types. Thus, Vermont and Georgia, while having common conditions to meet, have each its special problems, while the chief difference between those which arise in Vermont and in New York State is due to the extent of the population and territory in each.

Although some of our health administrators have from time to time assumed as their prerogative the exercise of authority over many human activities which only remotely touch upon matters of public health, in the final analysis—and I have given the matter a good deal of thought—the duties of health officials are nearly all comprised directly or indirectly in the control of communicable disease, and the reputation for efficiency of health officials must rest on the thoroughness with which these are performed and on the tangible results which are bound to follow honest and intelligent effort.

Thus, one of the most spectacular and satisfactory accomplishments of a well organized health department is that of the reduction of infant mortality and one of the most important factors in its accomplishment is the education of mothers in the general care of their children. Yet how much less would have been the saving of infant lives if the intestinal infections which come from contaminated milk had not been enormously reduced by the supervision of the milk production, the care of containers and the heating of milk not otherwise suitable for infant consumption!

Again, the supervision of midwives is an important function of boards of health, especially those having jurisdiction over large immigrant populations. Apart from the prevention of malpractice and the avoidance of unnecessary operative procedures, such supervision consists largely in compelling midwives to receive sufficient instruction in the principles of asepsis so as to avoid so far as possible infection of patients.

So also in the department of sanitary engineering the ultimate object is the control of certain water-borne infectious diseases. In short, throughout the list of official functions, with the exception of certain items in vital statistics, of the control of cancer by the education of the people, and perhaps in the future the control of physical degeneration which follows the use of alcohol and drugs, I can think of no duty which does not directly or indirectly relate to the control of the infections of known and unknown origin. In the exercise of this control there are two essential factors: first—the ability to recognize communicable disease when met with, the knowledge of the method of the spread of each disease and the steps to be taken to prevent its spread, as well as the application of such specific treatment as has been found effective and the ready means of obtaining such specific at short notice. Second,—when disease is discovered, the prompt reporting of it to the proper authorities.

The machinery for controlling communicable disease differs in the various States only in matters of detail and efficiency; the responsibility for the actual carrying out of the work is placed upon the local health officers who are answerable to the State Commissioner of Health for its proper performance.

In New York State, as you know, there are practically two health departments —that of the City of New York and that of New York State; each independent of the other but nevertheless in co-operation in matters concerning the State as a whole.

Under the State Department of Health, having jurisdiction over five million people, are some eleven to twelve hundred local health officers appointed by local health boards whose services are paid for by the community. No appointing power rests with the Commissioner of Health, who, however, has the important power of removal after a formal hearing of charges relating to dereliction of duty, personal unfitness and the like. This power is not infrequently exercised. In this large group of health officers it may be readily understood that there is every degree of efficiency, varying from the very highest to absolute uselessness.

When the present Commissioner took office in 1914, the duties of the health officers were largely what they chose to make them. The present Sanitary Code of the State and Public Health law prescribe definitely their duties which, from time to time as occasion has arisen, have been specifically defined. Monthly reports are required of all of them and official orders affecting their work are issued monthly in a special publication intended for them and for the local registrars. The Public Health Council, the adviser of the Commissioner, has at his recommendation prescribed certain definite requirements for health officers to be appointed or re-appointed after November 1st next. These requirements include registration or completion of a public health course conducted at the University and Bellevue

Medical School and at the Syracuse University, consisting of a correspondence and reading course together with a certain number of days in residence with clinical study of the common infectious diseases, and field work on sanitation, milk supply, and so forth. This education of health officers will be still further developed and other centers established throughout the State in connection with teaching institutions at the first opportunity. On the whole this undertaking, although it has proved in a number of instances a personal hardship to health officers living at a great distance, has met with a ready response. A great many health officers have testified as to their appreciation of its benefits. An age limit of 65 years has also been prescribed as operative on November 1st for those not already holding office.

It is not possible for anyone knowing the facts to be enthusiastic over what well may be considered a makeshift for the education of health officers, but when it is understood that this is the first step which the State has taken in that direction, no one will dispute its desirability.

Clinical teaching of infectious diseases throughout a large State must under the present system of health administration always remain a grave problem. The actual knowledge of these diseases as obtained at the average medical school is wholly inadequate and only in the large centers of population can such knowledge be acquired. Thus, only in the City of New York is any great wealth of material for the study of these diseases to be obtained during a large part of the year, which means a great deal of time lost for those who attend the clinics from a long distance.

The appointment of health officers by local boards is often a matter not of the requirements of public health, but of influence, favoritism and the needs of local politics. Few persons especially in the rural communities take the matter with enough seriousnesss; the ordinary pay of 10c per capita of population is absolutely inadequate for the duties which are required. It cannot be too strongly emphasized that, because a man is an able and successful practitioner, he is therefore necessarily desirable as a health officer. Quite the contrary. The very fact of his having many patients in the community, to whom he must give a good deal of time and with whom his personal and professional relations are such as not infrequently interfere with the proper carrying out of measures of quarantine and the like, precludes the possibility of his being an efficient public health official. In many communities, however, there is no choice of candidates for health officer and it is frequently difficult to find one who is willing to devote any amount of time to it. Nevertheless, for some reason which I am unable to fathom at the present time, the office seems to be one which is sought after and highly valued by many local physicians.

During the present epidemic of poliomyelitis the people of the State of New York have been given a vivid demonstration of what the duties of health officers are, how they should be and how they should not be carried out, together with a splendid opportunity of realizing the weaknesses of many of their local officials, and it is safe to say that from this time forward more interest will be taken by them in the selection of health officers.

In the State of New York, as I believe is the case in Vermont, not only health officers and other physicians, but also the heads of households, are now required by the Sanitary Code to report cases of communicable disease; the failure to do so being a misdemeanor—an offence under the law. This resulted within a very short time after its enactment in a much greater proportion of infectious diseases being reported; nevertheless we are all aware of the fact that there are still a great number of cases which for one reason or other fail to be reported. The State Department is keeping a list of physicians who fail to make reports, and in the case of each death from a communicable disease the records are consulted to learn the attending physician's name and whether the Department was notified of the existence of the disease before death. In a number of instances charges have been brought against health officers for failure to comply with this rule and, the charges having been sustained, they have been promptly removed, publicity being given to this fact through the official bulletin—the physician's name and location being omitted.

Health officers and other physicians have also been warned that failure to have a bacteriological diagnosis made in the case of diphtheria, tuberculosis, typhoid fever and the like will not be accepted as an excuse for the non-recognition of these diseases, as laboratory facilities for this work have now been made available throughout the State. In spite of this there can be no question that outside of the more thickly settled communities physicians are exceedingly neglectful of the aids to diagnosis furnished by the laboratory; many are still under the impression that they are capable of making a diagnosis of diphtheria in every instance without the use of cultures, or of tuberculosis without a bacteriological examination of sputum. Although the New York State Department of Health possesses a very efficient central laboratory which, thanks to the support of the Governor and Legislature, will shortly be housed in a suitable building, and also operates a branch of the State laboratory in the City of New York; owing to the extent of territory to be covered and the delay in getting specimens to and reports from the laboratory over long distances, every effort is being made by the Director, Dr. Wadsworth, to persuade the different counties to establish local laboratories to take care of the needs of the immediately surrounding territory. There can be no question that there is no more important method of stimulating the interest of physicians in the scientific treatment of their cases, as well as in the establishment of a diagnosis with scientific accuracy, than the presence in the neighborhood of a well-equipped diagnostic laboratory. The people in the rural districts are in many instances without scientific and adequate professional care. The poorest and most unworthy inhabitant of our largest cities has on the whole opportunities for better medical treatment than the people of country districts possessing the highest attributes of citizenship, and it is largely for this reason that every variety of quackery, under whatever name it goes, and the wholesale use of patent medicines flourishes especially in the country districts. If these people cannot obtain recognized methods of diagnosis and treatment they will naturally take

the alternative of accepting anything however worthless that is offered.

One of the most serious problems which confronts the country as a whole is the medical care of the people of the rural districts. The higher requirements now being made in most of the recognized medical schools, together with the lengthening of the various curricula, is unquestionably resulting in turning out better equipped physicians, but in much fewer numbers than formerly and in many instances those who are unwilling to assume the cares and moderate returns of country practice. The country districts are thus being denuded of physicians. Many suggestions have been made regarding the solution of this difficulty; none are wholly convincing. It has been, for instance, suggested that there be recognized a lesser title than that of Doctor of Medicine—one resembling the English title of Bachelor of Medicine, requiring a shorter course of study and entitling the holder to practice medicine in rural communities under certain definite restrictions. The objections to this are perfectly obvious. Another suggestion is that the care and supervision of the people be carried out by nurses acting under the direction of State officials. This of course would involve a great deal of expenditure and a very large staff in order to be efficient. A third suggestion, but one which in all probability none of us here will ever see put into effect and yet which personally I feel is bound to come, is that of a system of State medicine which will include the placing in every county, or other territorial division, of a well-equipped hospital including an isolating pavilion for infectious diseases, pavilions for the care and treatment of tuberculosis, a fully equipped diagnosis laboratory and constantly in residence a consulting surgeon and physician of recognized ability whose services shall be paid for by the State or county on a salary basis, and made available to all the physicians of the district. Personally, I do not feel that anything short of this will give the people of the rural districts the care and attention which they deserve. A form of socialism, if you will, but one which in its fundamental conception is now being carried out in England and will unquestionably spread to other countries.

The care of the health must of necessity be one of the first thoughts of every intelligent human being, and until this is provided for in the country districts we shall continue to see what is now daily going on—the denuding of these districts for a residence in more populous centers.

In the meanwhile until the adoption of this plan, which must lie in the distant future, a great deal can be done by the consolidation of health districts and the employment of whole-time, adequately paid, well trained health officials, responsible to the State Department for the supervision of the general health of their communities. The New York State Department of Health is at the present time making every effort to further this plan in every district in which it seems possible to have it adopted, and in the last few months has been able to consolidate a number of health districts and has the greatest hope that in a number of them the people will agree to retain the services at an adequate salary of whole-time health officers.

Through the efforts of Dr. Cressy L. Wilbur, Director of the Division of

Vital Statistics, the State Department of Health has succeeded during the past year in obtaining reports of a very much greater number of births than ever before in the history of the State. Physicians, midwives and others are obliged to report a birth within five days, the failure to do so being a misdemeanor. In a number of instances fines have been imposed and publicity given to the matter. Furthermore, the people at large have been publicly urged to see that their children's births are officially registered. The example of New York State in this particular was immediately followed by a number of other States and officially approved and given the highest praise by the U. S. Bureau of Vital Statistics.

I am perfectly familiar with the excellent work which is being done by your State at the present time in the control of infectious diseases, and have been extremely interested in reading in the last quarterly report of your State Department the tangible results that have been achieved during the past five years. It is with the greatest admiration that we have watched your radical attempt to control venereal diseases and, while wishing you every success and acknowledging that we in the New York State Department of Health have up to the present time not felt ourselves adequately equipped to undertake this work with any hope of success, we extend to you our sincerest sympathy and wishes for tangible results, knowing that if you fail you will fail in excellent company throughout the civilized world. Personally I am in hearty accord with the views of one of your speakers at the meeting of the 18th Annual School for Health Officers, Dr. Townsend of Rutland, that this problem is one which can only be solved by the education of the youth, both male and female, at the time of puberty. This may probably best be done in the schools, but—and this is of the greatest importance—by those who know how and what to teach. The ostrich-like policy firmly fixed in the American mind has too long been allowed to control a question which is regarded as too delicate to be discussed in public, and the consequences are everywhere at hand and appalling. Until these diseases are discussed as diseases and not as something set apart in the code of morals, little can be accomplished, by any organization, however praiseworthy be their efforts.

In conclusion, while I have only touched on a small number of the problems which arise in connection with the administration of public health in the State of New York, and realize that there are many of equal, if not of more importance, I trust you will give me an opportunity to answer such questions as I am able, regarding other matters with which our mutual State Departments of Health have constantly to deal, and from the discussion of which we may derive mutual benefit.

A NEW OPHTHALMOLOGICAL SERVICE AT BELLEVUE

An Ophthalmological Service has been added to the other departments of Bellevue Hospital, New York. It is located in the new surgical pavilion but is entirely distinct from the rest of the hospital having its own operating, examing and dressing rooms, a staff of attending surgeons, special internes and nurses; its capacity for the present will be 50 beds. The service is in charge of Dr. Charles H. May, attending surgeon, who will have as his principal assistants Drs. Julius Wolff and John M. Wheeler.

A CASE OF STRANGULATED HERNIA WITH UNUSUAL SYMPTOMS

LUCRETIUS H. ROSS, M.D.
BENNINGTON, VT.

Read at the 12th Annual Meeting of the Association of Rutland Railroad Surgeons.

I beg leave to report the following case which, after a search through surgical and medical bibliography, I am led to believe, is unique.

Widow, a reader and healer of Christian Science, 51, 5ft. 6 in., 165 lbs. The only sick thought she had ever had was in 1892 when she thought she had a large uterine fibroid. This was true and the "error" was removed by a surgeon in Philadelphia. A ventral hernia formed at the scar of the incision which in time became as large as a man's head and contained without doubt all of the movable organs of the abdominal cavity.

Early in the morning of Sept. 10, 1911, this woman was taken with pain in the hernia, which continued all day—growing worse towards night. She was treated over the telephone by a Christian Scientist 50 miles away. In addition she took several emetics which finally caused her to vomit some liquid digested food. She took also one saline enema and one turpentine enema which relieved her of a large amount of gas but no fecal matter. The pain continuing to increase in severity, I was called at 2 a. m. September 11, and found the patient in very severe paroxysmal pain—sweating profusely. T. 98; P. 86 and of good quality. The hernia was distended with gas and the peristaltic action of the bowel could easily be felt as the hernial covering seemed no thicker than the skin.

My diagnosis was strangulation of the gut within the hernia; my prognosis, very grave; my treatment, Morph. Sulph. gr. ¼, Atrop. Sulph. gr. 1-150 hypo., and my advice was removal of patient to a hospital for surgical treatment. The treatment was taken, the advice was not. The patient slept 4 hours and awoke in pain. The hypodermic was repeated, which caused the patient to sleep 4 hours more. She awoke vomiting and continued to do so all day and all night. At first the vomitus was small in amount, of a creamy color with no odor. Later it increased in quantity—sometimes as much as 3 pints at a time—and the odor became very foul. The patient refused all medication or treatment except the hypodermics of morphine at about 4 hours' intervals, which controlled the pain.

At 9 a. m. on the 3rd day of the sickness—T. 98, P. 102—the patient allowed a S. S. enema to be given. It returned clear. Several high enemas were given and all returned clear. Vomiting continued. A Christian Science healer arrived late in the day and took up her abode in the house to assist in the treatment. She never interfered with me, but my presence, she said, was bad for her suggestions. Be that as it may, she, the trained nurse, and I—we three continued on the case until the end.

Fourth day. Vomiting all day at intervals, odor of vomitus very foul; several enemas were given—some in the knee-chest position—part were S. S. and part a mixture of olive and castor oils. All returned clear with no feces nor gas.

During this day and all the rest of her illness the patient would not allow her temperature to be taken and the pulse could be obtained only surreptitiously. This day it ranged from 112 to 115.—thready and even imperceptible at times. No morphine was required all day. A surgeon was called in consultation. He agreed with me in the diagnosis and gave a hopeless prognosis either with or without operation.

On the 5th day the patient's condition was about the same. Malted milk, tea, beef tea, vichy and plain water were taken but were immediately vomited. All enemas were returned clear. Two nutrient enemas dribbled slowly away. Two hypodermics of morphine were given.

The only changes that showed on the 6th day were an intermittent pulse and a wandering intellect.

At midnight, the beginning of the 7th day, the vomiting stopped and the patient ate at intervals soft-boiled eggs, soft toast, malted milk, tea, and cracker gruel and retained them all. Was delirious all day and could not talk without stammering.

8th day—no change.

9th day—bowels moved at 9 a. m. for the first time since the beginning of the illness. The urine, which up to now had been scanty, high-colored and high Sp. Gr., became normal in amount and character.

10th day. Vomiting at ½-hour intervals all day—at times a thick creamy fluid and at other times, bile; patient still delirious—complains of cold feet and general chilliness. Pulse very weak —not perceptible at wrist for long periods.

11th day. Bowels moved after S. S. enema; vomiting frequently; feet and legs cold; patient very incoherent and stammers when talking. In spite of the fact that the bowels have moved a number of times, the size of the hernia is increasing steadily. It is becoming more and more distended with gas and its color has been changing to a dark purple. Peristaltic action is felt very plainly all over the left half and top of the hernia while the right lower quarter feels boggy and no peristaltic action is perceptible.

12th day. Bowels acted several times voluntarily and the hernia became smaller although the discoloration continued.

13th, 14th and 15th days. The condition of the patient remained about the same. Pulse running from 115 to 120; weak, intermittent and irregular; very little vomiting; bowels acting naturally two or three times daily; mentally very hazy; the hernia gradually decreasing in size but remaining very dark-colored.

16th day. Bowels acting freely; patient eating beef tea, grapes, peptonized milk and albumen water; mind clear; pulse, 120-124; temperature 100 2-5 per rectum.

17th day. No change.

On the 18th day pain and vomiting returned and although the bowels continued to act freely, the hernia became very distended and discolored: patient again delirious.

19th day. Condition better; vomiting stopped and the mind cleared; some blisters forming here and there on the hernia.

20th day. The hernia is becoming sensitive to the touch so that the patient is obliged to lie on her back and to have the bedclothing supported so it will not rest on the hernia. This is partly due

to the many blisters forming on its surface. Patient is jaundiced.

21st, 22nd and 23rd days. During these three days the symptoms became gradually worse. The distension of the hernia increased, although the bowels moved frequently. The sensitiveness increased to such an extent that the patient was made uncomfortable by the jar of anyone walking across the floor.

24th day. The hernia is very tense and exceedingly painful to touch; the blisters on the surface are breaking and are discharging a bloody serum; jaundice is increasing and the feet and legs pit on pressure. Vomiting began at noon and continued all the afternoon.

25th day. The patient had a very poor night; vomiting frequently and suffering so much pain that it was necessary to resort to morphine again; still jaundiced; whole body edematous; pulse 125 to 140, weak and intermittent; at 9:15 p. m. an opening broke through from the gut to the outside. This opening was on the upper part of the hernia in the crease where the hernia folded back on the abdominal wall. A small quantity of pus was discharged with a large quantity of very foul-smelling fecal matter.

26th day. Patient had a comfortable night although the perforation discharged continually, pus, feces and gas; pulse remained about 120 all day, and was of good quality; morphine was given twice during the day in order to quiet the patient so that the perforation and hernia could be dressed.

27th day. Body and legs still edematous; three grains of calomel were given at 6 p. m. and at 5 a. m. the next morning sodium phosphate, which produced three large movements through the perforation on the 29th day. On this same day, the patient was put on to an air mattress because her body was so edematous and her back so tender that bed sores seemed imminent.

30th and 31st days. General condition about the same, but the pulse dropped gradually to below 100; feces were discharged many times through perforation; patient still delirious, especially bad upon awaking.

32nd and 33rd days. The skin all about the perforation is becoming excoriated because of the irritation of the discharges; oiled silks, bismuth ointment, stearate of zinc and various other dressings have been tried with apparently no benefit.

34th day. Passed gas per rectum.

35th, 36th and 37th days. Mind clearing, but the patient is very much depressed. The abrasions on the hernia are healing and the edema is less.

38th day. In addition to the usual amount of feces and gas, there was a discharge of pus all day from the fistulous opening. At about 7 p. m. the patient said there was something in the rectum and the nurse inserted a glycerine suppository. Ten minutes later there came away a small amount of fecal matter—the first that has passed the rectum in 14 days. Edema has been growing less the past few days until at present it is all gone except about the buttocks and above the ankles.

39th and 40th days. Pulse running from 104 to 114 and of fairly good quality; three or four movements per rectum and very many through perfora-

tion; the excoriations on the surface of the hernia are all healed although the hernia is still distended and discolored.

41st and 42nd days. The movements through the perforation have been growing less and the perforation is closing.

43rd and 44th days. Hernia still distended and discolored; an olive oil enema was given with no result; one grain of calomel was given at 10 p. m. and the next morning after sodium phosphate there was a large movement per rectum.

45th day. Another large semi-solid movement per rectum at 10 a. m. and several watery ones during this day and the next (46th). This caused the hernia to decrease perceptibly in size.

47th and 48th days. Patient had two very good days and nights and felt much better; sat up in bed for a few minutes; bowels moving freely per rectum and but very little through the perforation.

49th to 58th days. During these 10 days the patient's condition improved continuously; edema disappeared and the hernia diminished in size; sodium phosphate was given every other day, which produced frequent large watery stools per rectum; very little fecal matter was discharged through the perforation, which grew smaller daily; the pulse gradually dropped to below 90 and became better in quality.

From now on her improvement was uninterrupted. Her mind became wholly clear on the 60th day; on the 61st she sat up in a chair for one hour and on the 70th the perforation closed.

She soon regained her normal health and resumed her usual duties—in fact, she tells me that she feels better and has been able to do more since this sickness, than had been the case for years before it.

She is still a reader and a healer of Christian Science and she frankly tells me that he recovery from her "error" would not have been so long delayed but for the evil presence of the nurse and the doctor.

Just what happened in this hernia is only conjecture, but my guess has been as follows:

At first, a strangulated gut which was relieved on the 9th day either by the gut's becoming loosened or by a perforation from a loop of bowel above the strangulation into a loop below it. The latter seeming the more probable. This did not give complete relief because there was too great a length of bowel between the strangulation and the opening above it. The result was that much of the intestinal contents failing to enter the opening passed on into the cul-de-sac of bowel above the strangulation. In order to relieve this condition, nature on the 25th day made an artificial anus close above the strangulation. The patient's bowels were then acting through two anuses. This unfortunate condition lasted for one day only, after which time, for 14 days, there were no movements through the natural anus. Then another perforation was made from the bowel above the strangulation to that below but this time the opening above was closes to the strangulation. As soon as this happened the artificial anus began to close and became completely healed in 32 days.

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The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., January, 1917.

Editorials

To every member of the Vermont State Medical Society, the Editor, Manager and Publication Committee wish a prosperous and Happy New Year.

A PERSONAL WORD.

With this number, Vermont Medicine enters upon the second year of its existence. When, a year ago, the then Secretary, Dr. Hamilton, informed me that my name had been suggested to him as Editor and asked me to take up the corresponding duties, I urged in vain my unfamiliarity with the work that would be required of me. Long I wondered how he came to make the request, but I recollected that many years ago I once occupied for a brief period a subordinate place on the Necrology Committee, and it occurred to me that he perhaps thought, since I had very properly proved a dead one on the Necrology Committee, I might prove a live one as Editor of your magazine.

How well or how ill I have answered his expectations and how you as members of the Vermont State Medical Society have regarded the result of Dr. Hamilton's indiscretion in asking my appointment to the Publication Committee, I have received no intimation; but I may affirm on behalf of the whole Committee that no thought has been in our minds but the welfare of the Society, and our effort has been constantly directed to producing a clean, well-considered and dignified journal which should merit your approval and win your hearty support.

A. Stuart M. Chisholm.

A NEW JOURNAL.

To the youngest newcomer on our Exchange list, the *Rhode Island Medical Journal,* we extend our fraternal greetings and good wishes. The *Providence Medical Journal,* after a useful and honorable career of seventeen years, has given place to a Journal owned and published by the Rhode Island Medical Society. The new Journal, with Roland Hammond, M.D., Editor, and J. F. Hawkins, M.D., Business Manager, both of Providence, aspires to be, and already promises to become, as influential and as valuable as its predecessor. Success and prosperity to our Rhode Island colleague!

A NATIONAL MENACE.

The Annual Report of the Massachusetts State Board of Insanity for the year ending Nov. 30, 1915, has been recently issued. This Board has in charge the care of the feeble-minded as well as of the insane in that state, and the combined total at the date of the Report was 18,137, or one in every 203 of the population of Massachusetts, the increase for the year being 833. Of this whole number 14,746, or 81%, were insane, and 2,604, or 14%, were feeble-minded. This does not presume to include all of the feeble-minded in the state, but only those who come under the control of the Board in public or private institutions. For manifest reasons, the actual number is far in excess of the figures as stated.

This report represents a truly appalling condition when compared with earlier statements. The last quinquennium shows an average annual increase of 596 insane and feeble-minded, registered in asylums of the State, and if to this list were to be added the number of criminals in Massachusetts penal institutions, it would come perilously near accuracy to conclude that every hundred persons in that State, counting women and children, were obliged to support one individual in these public institutions. They are State charges, the money for their support and care is paid from the State funds, which are raised by taxes, which in turn are levied inexorably on State residents. If it is a fact that sterilization affords a remedy for the increase of these conditions, why is it that, as a mere economic necessity, this remedy is not applied? Nearly half of these undesirable people are of foreign birth and have slipped through the immigration net. Why in the name of American ideals are these people not halted at our entrance and returned to the ports from which they sailed? The character of our immigrants has fallen off from the standard set by the Puritans, the Covenanters, the Huguenots and the Quakers, and year after year sees a more and more degenerate influx of undesirable immigrants. We have come down from the cream to the dregs and the dregs are full of poison. Our national character is threatened, our civilization is at stake. We are becoming a nation where the proportion of criminals and imbeciles undermines our very existence as a nation. The proportion is creeping up visibly. It is now nearly one to a hundred, and will become one to fifty and then one to ten. The Boston Medical and Surgical Journal for October 12, 1916, in reviewing the report of the Children's Bureau of the United States Department of Labor, then recently issued, calculates that in the District of Columbia, where if anywhere in this country wisdom should be enthroned, the number of insane and feeble-minded persons amount to one in every eighteen of the population, or about 6%.

It is perfectly well known also that the birth-rate of native born Americans has reached a point where any increase in the population must come from immigration, and as is also well known, we are receiving for the last few decades only the very lowest, most illiterate and most criminal of all European undesirables. When will we awake to the urgent and imminent menace that actually confronts us?

Secretary's Page

Wm. G. Ricker, M.D., St. Johnsbury, Secretary.

After conferring with the County Secretaries and Presidents, those in charge of the Post-Graduate course have decided to hold no winter meetings but instead, beginning the last week in May, the meetings will be held during the summer months. This is on account of the fact that many of the men who would most like to attend these meetings are located so as not to reach the centers conveniently by train, whereas in the summer time, either by automobile or by rail, every one will be able to attend.

The secretary wishes to call the attention of all members to the fact that the annual fees are now due, and the receipts are in the hands of all County Secretaries. We urge you all to increase the membership in your County Society so far as possible. The fact of not holding membership in the State Society counts more against a man's standing than possibly he realizes and membership in the Society for possibly more than he is aware of. We feel that every reputable practitioner in the State should be a member. An additional reason is that of finances. If you were all aware of the small amount of money available for general expenses, you would realize this very keenly. With more money in the treasury much could be done by the State Society during the year. There have been during the past year 382 paying members. Can not this number be raised by an appreciable percent?

Communication

THE TREATMENT OF INFANTILE PARALYTICS.

To the Editor of VERMONT MEDICINE:

Your timely editorial remarks on the above subject in the last number of VERMONT MEDICINE draw a comparison between the after treatment of infantile paralysis in New York City and in rural Vermont, not altogether creditable to the latter.

While the seeking out, supervision of these cases, and their treatment are quite different and more difficult propositions in our state than would be the case in a city, especially at this season of the year, it should not be forgotten that we have been doing this work for over two years, or since the end of our 1914 epidemic. Most of the cases that occurred during that outbreak and the subsequent ones have been seen and proper exercises prescribed.

The State Board of Health has been able to do this through private beneficence and the main reason why I am writing this communication is to keep this matter before the physicians of the state.

It is true, as you say, that most of "our physicians will conscientiously and skillfully respond to the demand upon them." There is, however, now and then one or possible a parent, who does not appreciate the importance of persistently following the prescribed exercises in these maimed children.

Commencing in December, 1914, Dr. Robert W. Lovett began his series of clinics at various points in Vermont and with the co-operation of Dr. Martin, at that time of the Department of Physiology at Harvard, developed a system of measuring muscular strength and tests that have proven of the utmost importance in detecting paralyzed groups of muscles as well as measuring their progress with some degree of accuracy. Not only have these children had the proper treatment prescribed for them, but many of them have had operations and mechanical assistance supplied them out of the private fund mentioned.

Indeed, the State of Vermont, I believe, is the first state or community where the after treatment of infantile paralysis has been systematically undertaken and carried out, as it was the first state to develop the disease in epidemic proportions.

Your reference to Miss Wright's Monograph on the subject of Muscle Training is entirely just. Her pamphlet will be found, as you say, of service to any physician who has the care of these cases, and you will allow me to add that Dr. Lovett's book on the subject of "The Treatment of Infantile Paralysis," published by Blakiston of Philadelphia, will be found of the greatest usefulness. This book is founded very largely on the work done in our state. New York City has adopted Vermont methods, I believe, and New York State has adopted Dr. Lovett in the treatment of infantile paralytics.

Again let me sound a note of caution to physicians having these cases in charge that all of them can be amazingly benefited by persistent care along the lines developed by Dr. Lovett and Miss Wright; and none of them should be abandoned as having reached the limit of improvement or as being hopeless until they have reached their full growth.

Miss Merrill, who has done much of the follow-up work on these cases during the last year and a half, is still visiting Vermont periodically and if there are any cases in the care of any physician, who have not yet seen Dr. Lovett or Miss Merrill, they should communicate with the Secretary of the State Board of Health at Burlington and they will be notified in due time of Miss Merrill's visit to their neighborhood.

C. S. CAVERLY, M.D.
President State Board of Health.

Rutland, Vt., Jan. 18, 1917.

The engagement of Dr. Frederic W. Harriman, of Montpelier, and Miss Marion Bailey, of Montpelier, daughter of B. B. Bailey, vice-president of the American Fidelity, has been announced. Miss Bailey is the granddaughter of Hon. B. F. Fifield, the only man who ever refused a United States senatorship. Dr. Harriman who has practised in Montpelier for about three years, was a graduate from U. V. M. in 1911.

The operation of compulsory vaccination was suspended in Zurich, Switzerland, in obedience to popular clamor, in 1883. The deaths from smallpox per 1,000 total and that year had been, in 1881, 7; in 1882, 0; in 1883, 8. They rose, after compulsion had ceased to be used, in 1884, to 11.15; in 1885, to 52, and in tre first eight months of 1886, to 75 per 1,000.—*The Medical Pickwick.*

Progress in Medical Science

THE STUDY OF CANCER.

December 27th, 1916.

To the Editor of VERMONT MEDICINE:

The inclosed press abstract of addresses to be delivered at the cancer symposium of Section K of the American Association for the Advancement of Science at the American Museum of Natural History, New York City, on Friday afternoon, December 29th, is submitted for publication on December 30th 1916. This abstract has been carefully gone over and approved in the present form by the speakers and by the Executive Committee of this Society. It is particularly requested by the speakers and by the Committee that this "authorized version" be made the basis of whatever report and comment you may publish regarding this meeting.

Very truly yours,
CURTIS E. LAKEMAN,
Executive Secretary.

SCIENTISTS DISCUSS CANCER.

Symposium on Disease Held by American Association for the Advancement of Science.

Although radium has produced very important palliative results in advanced cases of cancer, and has even, in a considerable number of cases, apparently caused a complete disappearance of the disease, yet it cannot be relied upon to effect a permanent cure in the late stages of inoperable tumors, and therefore the importance of early diagnosis of cancer is again emphasized. Such is the essential message from science to the public on the present status of the radium treatment according to Dr. James Ewing of Cornell University Medical College who took part in a symposium on this disease held yesterday afternoon at the American Museum of Natural History under the auspices of Section K (Physiology and Experimental Medicine) of the American Association for the Advancement of Science. Other papers of special scientific interest were presented by a number of the foremost students of the cancer problem.

Dr. Ewing spoke from his experience with the radium treatment of cancer at the Memorial Hospital with which he is connected as Director of Cancer Research and which is receiving, through the generosity of Dr. James Douglas, a large part of the radium now produced under improved processes by the U. S. Bureau of Mines in co-operation with the National Radium Institute. According to the speaker the use of radium in cancer has within the last ten years established itself as an excellent method of dealing with benign and malignant tumors of the skin which, when properly applied, it usually removes promptly and with remarkably little scarring. In the major types of cancer of the accessible mucous membranes radium has also achieved considerable success. It has been chiefly tested in uterine cancer in which diseases it has accomplished radical improvement of many inoperable cases and several apparently complete cures as attested by post-mortem examination after the patients had died from other causes. A number of foreign surgeons state that their results are better than with surgery and they employ radium in both operable and inoperable uterine cases.

The leading American surgeons who are using radium obtain equally good results but take the opposite position that they prefer to operate in suitable cases.

According to the speaker much the same situation exists in regard to many other forms of accessible cancer, while a few authorities even report apparent success with such difficult cases as those of the lip, tongue, rectum, etc. "It has become apparent," said Dr. Ewing, "that success depends very largely upon the skill and accuracy of application, upon a knowledge of the anatomical character of the particular tumors treated, and above all upon attacking the disease before it is too far advanced."

Referring to the limitations of radium therapy as "numerous and formidable" Dr. Ewing pointed out that "the supply of this metal is small and generally restricted to a few institutions. The requisite skill to apply it safely and effectively and to choose suitable cases is still more restricted. Beginners often do more harm than good and it is easy to discredit the agent entirely. The methods are badly in need of standardization. Under-dosage may destroy superficial tumor cells only and leave the deeper ones to grow in the inflamed tissues. Over-dosage causes the destruction of normal or diseased tissues resulting in fistulas, hemorrhage, and severe infection. With repeated doses tumor cells appear to become less and normal tissue more susceptible. Excessive scarring often results and prolonged exposure to large amounts often causes a peculiar and severe form of general intoxication. Several workers have had fatal results from their attempts to cure advanced cases. Finally radium has only a local effect extending at most to a depth of six to ten centimetres and if it has any constitutional influence this cannot be relied upon to deal with extensive local or generalized cancer. Under these circumstances a general recommendation to the public to resort to radium for all types and stages of cancer is decidedly inadvisable."

With reference to the future of radium Dr. Ewing did not venture a forecast but pointed out that very great significance must be attached to its selective action on many kinds of tumor tissue. In spite of rapid improvement in the technique of application the speaker believed that on the whole the methods are still comparatively crude, although he had little doubt that exact dosage and accurate adjustment of the apparatus can be worked out to a much greater degree than is now accomplished. "For inoperable cases," Dr. Ewing said in conclusion, "the value of radium, although great, is perhaps already over-estimated. To what extent it may establish itself in the treatment of operable cases it remains for the future to decide."

Dr. Joseph C. Bloodgood of Johns Hopkins University spoke from the surgeon's point of view on cancer in the human being, dwelling especially upon the importance of the pre-existing lesions which may develop into cancer and in the treatment and removal of which lies the chief opportunity of preventing this disease. Dr. Bloodgood made it clear that cancer in its early stages is easily cured. "The disease," he said, "usually springs from a pre-existing lesion allowed to go unattended. Chronic irritation of a sore may also contribute. In external cancer the

warning is visible or can be felt. Unfortunately pain is rarely present. A mole or a wart, a small area covered with a scab, a small lump or nodule beneath the skin, an unhealed wound, all of these may indicate potential cancer. The appearance of these defects should mean a call upon the physician for examination as to the probability of incipient cancer. Nothing is lost by taking the precaution if symptoms are not found, and on the other hand the risk is too great to allow the warnings to go unheeded. The question in this case is decided by the physician and in many cases a minor operation removes a probable cause of the disease."

"No man ever yet had a cancer on the lip or tongue without first experiencing some warning," continued the speaker. "The defect may be a burn from continued smoking or an irritation from ragged teeth. The probabilities of a cure are excellent when men heed such signals of possible danger and are treated at once. Tobacco users are more subject to cancer than those who do not use it. There is no means of preventing cancer of the breast, the appearance of a lump or a discharge from the nipple being the first sign, but when such lumps are at once removed on their discovery half will be found benign, that is, not cancerous. The removal of benign lumps undoubtedly prevents cancer in many cases since modern medicine clearly recognizes the danger of benign lumps turning into malignant disease of the breast. The chances of permanent recovery in true breast cancer vary with the exact type of the disease but are excellent if it is recognized early and completely removed. The chance of recovery grows less and less as the delay is more and more protracted until cancer is incurable from the extent of the local or general involvement. Cancer of the stomach is a more difficult proposition but even in such cases there is usually a warning. Abnormal sensations of daily recurrence should not be neglected. So-called indigestion or what is styled 'colic' may be the warning. The chances are that it is not, but it may be so. If the pain, the sensations, the message from this part of the body comes time and time again, especially among people over thirty or forty years of age, a physician should surely be consulted."

"The mortality from cancer," concluded the speaker, "could be reduced considerable if the average person knew how to take care of himself. It is not a 'blood disease,' it is not a disease which people have any reason to be ashamed of. So far as physicians can tell it is not brought on by ill health or food. It comes to healthy persons, the healthy man or the healthy woman, but if the simple, easily noticed warnings be heeded the task becomes comparatively easy and the only miracle we have to perform is to educate a million people where we now educate one."

A historical survey of the crusade against cancer through the education of the public was given by Curtis E. Lakeman, Executive Secretary of the American Society for the Control of Cancer. He said that the first widely known campaign of this kind was initiated by Prof. Winter of Koenigsberg, Prussia, in 1891. As a result the cancer death rate of that vicinity has been definitely lowered and a large increase in the number of women applying for treatment in the early and operable stages of the disease had been noticed.

In England the chief effort has been made at Portsmouth under the auspices of the health department and at the instigation of Dr. Charles P. Childe, a prominent surgeon, whose book "The Control of a Scourge," published in 1906, is regarded as one of the best popular treatises on the means of recognizing and preventing cancer. The speaker reviewed the work of pioneer physicians in urging similar educational campaigns in the United States and referred to the appointment of cancer committees by the American Medical Association, the Clinical Congress of Surgeons, the Pennsylvania State Medical Society, and the action of various state and local boards of health. These local and independent movements have now been co-ordinated in the work of the American Society for the Control of Cancer which was founded in 1913 with the approval of all the leading professional organizations and with the active interest and support of many prominent physicians and lay people. "The results of the education campaign," said Mr. Lakeman, "are already becoming clear in such statistics as those reported by the Johns Hopkins University Hospital, the Barnard Free Skin and Cancer Hospital of St. Louis, and similar institutions and clinics showing a very definite and universal increase in the number of patients applying for early treatment. At the Barnard Hospital, for instance, a recent study of the records gives a striking picture of progress in the treatment of one form of cancer among women. From 1905 to 1907 there were 19 cases with an operability of 11.1%. From 1908 to 1910 inclusive, there were 40 cases with an operability of 17.5%. From 1911 to 1913 inclusive, there were 40 cases with an operability of 17.5%. From January, 1914, to December 1st, 1916, there were 66 cases with an operability of 40.9%."

Dr. Leo Loeb of Washington University Medical School, one of the first workers to devote himself to cancer research in this country, and Prof. G. N. Calkins of Columbia University, presented papers of great scientific interest on "Tissue Growth and Tumor Growth" and on "The Stimulating Effects of Protoplasmic Substances on Cell Division."

NOTES ON TUBERCULOSIS.

The published proceedings of the Twelfth annual meeting of the National Association for the Study and Prevention of Tuberculosis contains several papers that should be of interest to the general practitioner.

The Report of Committee on Diagnosis in Children indicates the lines upon which the investigation of a case is to be undertaken and is intended to give the minimum amount of evidence upon which a diagnosis of tuberculosis may properly be made. The report is as follows:

"Standards for the Diagnosis of Tuberculosis in Children.

I. Necessary Inquiries and Determinations for the Diagnosis of Tuberculosis.

History.—Exposure especially if prolonged; delayed convalescence from illness; malnutrition; under-weight for height or loss of weight; cough; expectoration; hemorrhage; pain; pleurisy; dyspnea; night sweats; digestive disturbances; ear discharges.

Constitutional symptoms.—Elevation of temperature, acceleration of pulse, rapid respiration, cough, expectoration, etc., as listed under history.

Physical signs—Persistent and persistently localized râles; additional abnormal signs elicited by the usual methods of examination; any glandular, joint, bone, cutaneous, ocular or aural abnormalities.

II. Essentials for Diagnosis of Pulmonary Tuberculosis.

1. Distinct persistent and persistently localized adventitious signs (râles) in the chest. Location (a) about the nipples—that is anywhere between the fourth and sixth ribs, the border of the sternum, and the anterior axillary line; (b) anywhere along the border of sternum, or in the region of the apices, as in adults. These, however, are infrequently found. These râles may be heard during inspiration or expiration, or after a cough. In many instances they can be elicited only by the cough.

(c) Râles limited to a considerable part or the whole of one lobe. If these are associated with a positive tuberculin test and persist over a considerable period of time, they should be regarded as tuberculous, despite the fact that, in association with enlarged tonsils or adenoids, similar signs may occur. However, in the absence of any means of definitely interpreting these signs, and particularly with a history presenting evidence of exposure to tuberculosis, it is wise to give the children the benefit of the doubt, and to consider them tuberculous.

2. Temperature by mouth over 99, recorded twice weekly for one month, and not otherwise explained.

3. A positive tuberculin test.

Exceptions: In the absence of adventitious signs a diagnosis of tuberculosis may be made in the following instances:

1. Given a positive tuberculin reaction, with an unquestioned and otherwise unexplained hemoptysis and with or without a definitely positive radiograph, the diagnosis of pulmonary tuberculosis is to be made.

2. Given a positive tuberculin reaction in children under 3 or 4 years of age, even without constitutional symptoms, and in older children with frequent cough or rapid pulse or fever, in addition to a radiograph which shows unmistakable mottling well into the pulmonic field without any sharp outline suggesting calcification, a diagnosis of pulmonary tuberculosis is to be made.

NOTES—(1) Cough will be present in most instances, but its absence does not negative a diagnosis of tuberculosis when the essentials above mentioned are present.

(2) A Wasserman test should be made for all patients having a suspicious history or symptoms.

(3) No patient with fever and persistent physical signs should be considered free from tuberculosis until the tuberculin test has given a negative reaction three successive times. In the interval patients are to be considered "under observation."

(4) Examiners are reminded that undue importance should not be ascribed to the slight vocal intensification and respiratory modifications, or to slight alterations in the percussion note, so frequently present in children, especially at the apices, unless they are persistent.

III. Essentials for the Diagnosis of Other Forms of Tuberculosis. To determine the presence of tuberculosis there must exist suggestive physical signs, or constitutional symptoms, or both (see I), negative Wasserman and positive tuberculin reactions.

NOTE—(1) Some conditions of glandular enlargement, even with positive tuberculin and negative Wasserman reactions, will require the elimination, by further clinical examinations, of lymph-adenoma, adeno-sarcoma, or other adenopathies.

IV. Suspects. To determine suspects physical signs may be absent or indefinite, but there must exist one or more suggestive constitutional symptoms or items of history (see I) and a negative Wasserman reaction."

H. S. G.

SPLIT PROTEINS IN HEALTH AND DISEASE

Much as the general practitioner may wish to side step a critical study of protein metabolism it becomes more and more evident that effective medicine demands at least a general knowledge of the part played by protein food elements. It has long been known that proteins were the prime essentials for cellular construction and activity, but not until very recently has it been known just how they played their part in metabolism. There are gaps in our present knowledge but enough is known to make it imperative that we frequently review the work of continued experimentation upon this subject in order that these gaps do not widen.

The subjects of protein metabolism and internal secretion are so closely interwoven that it is impossible to review the one without having to some extent to consider certain phases of the other. Evidence of this is manifest in

the statement that "The thyroid secretion is the fly wheel of aminoacid metabolism." (Mayo.)

It is now known that all food proteins, instead of being assimilated by the blood stream as peptones, poly-peptides, or proteoses, as formerly taught, are further disintegrated into a fractionless molecule known as an amino-acid, of which there are less than twenty. The eighteen amino-acids isolated are essentially responsible, in their various combinations, for the individual integrity and function of each and every body cell. Mendel mentions only one other prime factor and that is a cell's "habit of growth." Heredity predetermines this factor and will not be further considered here. Mendel has conclusively shown that heredity determines the kind and proportion of each and every amino-acid necessary to the construction and maintainance of special function for every variety of cell life.

Abderhalden, Cannon, and others, have shown that the end reaction of digestion, in so far as the proteins are concerned, is usually a complete fractionization in the small gut. These fractionized proteins are absorbed from the gut directly into the portal circulation as amino-acids. The total amount of each of the amino-acids absorbable is determined by the minimum quantity for each particular amino-acid contained in the protein food ingested. If, however, complete fractionization has not taken place at the time of absorption by the blood stream it is even then possible of accomplishment by means of the blood elements themselves — notably the ferment secreting mononuclear leucocytes.

We have then to concern ourselves with two problems — the determination of amino-acid food values; and the factors governing their fractionization, absorption, and cellular appropriation. In the former we are concerned with the subject of dietetics; while in the latter we have to consider both digestion and the finer processes of cellular metabolism. Cellular metabolism is directly dependent upon the quantity and quality of the organism's blood constituents. "Blood constituents" includes every elemental form of molecule, whether protein, carbohydrates, fat, or mineral. The German term for them is "Bausteine" or building stones and they refer particularly to the protein molecule of the blood constituents. These building stones circulate in the blood either freely or in loose combination. Such a condition readily offers to each and every cell, as it is bathed by a fresh blood flow, a generous supply of each and every building stone necessary for its growth or repair.

Variations in quantity from the normal, of the blood's elemental constituents, together with irritating influences, varying from the normal a cell's habit of growth; act as prime determinants of disease. It takes only a casual perusal of recent experimental data to confirm the above statement.

Mendel has shown that certain articles of food, commonly used as staples, are seriously lacking in one or more of these prime essentials or "building stones." Corn, consisting largely of zein, is almost entirely lacking as to its edestin content, an amino-acid of necessity in cellular activity. The lack of the tryptophan, glycocoll, and diamino-acid group of Lysin and the zein of corn readily accounts for the abnormality observed among the poorer classes of the South, where corn bread is about all many individuals eat the year around. If financial circumstances allow of the addition of tryphtophan and lysin containing food products this lack is immediately supplied, with a rapid return to normal of nutritional differences. Even milk with its lactalbumen, will practically restore a normal balance. Again "the gliadin of wheat and rye (notably deficient in glycocoll and lysine) and the hordine of barley, suffice for maintainance without growth. Animals nourished on them over long periods exhibit an interesting type of stunted conditions resembling properly nourished younger animals which have attained the same body weight." "The animals dwarfed by long periods of inappropriate feeding have not lost the capacity to grow. This easily attained form of animal infantilism offers opportunity for the investigation of numerous problems of broad pathological interest and scope." (Mendel.) Lysin and tryptophan are essential "building stones" as is evidenced by the fact that the decline brought about by the zein food can be stopped by the addition of tryptophan, as such, to the diet. This results in maintainance; but no growth

ensues until lysin also is added." (Mendel.) Proteins, therefore, lacking these are deficient as food stabilizers.

Gelatin is a notable example of an animal protein logically expected to possess definite food value. Its failure in this particular is due to the fact that it does not yield, upon fractionization, any of the growing amino-acids — tyrosine, tryptophan, or cystin. Maryland's Agricultural Experiment Station has put these theories into practical nse in the feeding of young chicks. They find that chicks fed upon mixed foods containing sunflower seeds, which in turu contains the amino-acid of lysin, develop their secondary sexual characteristics much more rapidly, attain better weight, and feather better than the controlls fed and cared for in identically the same way except for the withholding of the amino-acid, lysin, generously fonnd in the sun flower seed; and found to a lesser extent in wheat.

The food problem then becomes intimately concerned with the amino-acid content of foods ingested. The minimum of any particular amiuo-acid determines nutritional growth for any particular animal in so far as that particular amiuo-acid is necessary for the maintainance of a cell's Habit of Growth. Unused protein in an excessive protein diet has been proven to be combustible and thus aids in the maiutainance of heat and energy, at such a time performiug a work similar to that done by the carbohydrates. That this latter is true aids materially in preventing worse damage than usually occurs when one substitutes a high protein diet for the normal. But that damage actually occurs is beyond doubt from too frequent clinical observation. This latter problem is the one which concerns the physician most. We are, therefore, forced to a knowledge of the cellular use of the proteins as amino-acids iugested. We are further interested as to whether the cell is making a proper selection of amino-acids according to hereditary dictum or whether the cell has to make a selection under deviations from the normal due to changed enviromental influences. These may be more or less serious dependent upon whether the altered environment is local or general; intermittent or constant.

C. F. B.

(To be Concluded.)

From the Council of Pharmacy and Chemistry

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Merck and Company:
- Formin Tablets, 5 gr. and 7½ gr.
- Veronal Tablets, 5 gr.

H. K. Mulford Compauy:
- PERTUSSIS BACTERIN, MULFORD.

Schering and Glatz:
- IOCAMFEN.
- Iocamfen Ampules.

E. R. Squibb and Sons:
- UREASE-SQUIBB.

Non-proprietary articles:
- Acetylsalicylic Acid.
- Neutral Solution of Chlorinated Soda.

NEW AND NONOFFICIAL REMEDIES

Mercurialized Serum-Mulford.—The following dosage forms of mercurialized serum-Mulford, described in New and Nonofficial Remedies, 1916, p. 192:

Mercurialized Serum-Mulford No. 5-A.—Each package contains one 8 Cc. graduated sterile glass syringe with sterile needle. containing the equivalent of 0.0055 Gm. (1-12 grain) mercuric chloride.

Mercurialized Serum-Mulford, No. 5-B.—Each package contains one 8 Cc. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.011 Gm. (1-6 grain) mercuric chloride.

Mercurialized Serum-Mulford, No. 6-A.—Each package coutains ten 8 Cc. graduated sterile glass syriuges with sterile needle. containing the equivalent of 0.055 Gm. (1-12 grain) mercuric chloride.

Mercurialized Serum-Mulford, No. 6-B.—Each package contains ten 8 Cc. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.011 Gm. (1-6 grain) mercuric chloride. H. K. Mulford Company, Philadelphia, Pa.—(*Jour. A. M. A.*, Dec. 9, 1916, p. 1759.)

Pertussis Bacterin-Mulford.—A pertussis bacillus vaccine (see N. N. R., 1916, p. 321). Pertussis Bacterin-Mulford is sold in packages of four syringes containing 50, 100, 200, and 400 million killed Bordet-Gengou bacilli. H. K. Mulford Company, Philadelphia, Pa.—(*Jour. A. M. A.*, Dec. 16, 1916, p. 1851.)

PROPAGANDA FOR REFORM

Iron Cacodylate.—While manufacturers appear most ready to take advantage of the present interest in iron cacodylate by offering this in the form of ampules, etc., they have given little help to the A. M. A. Chemical Laboratory toward the establishment of standards for this arsenic compound. Manufacturers are ever ready to sell drugs of all sorts, but in view of the small demand for little used drugs, they cannot or will not safeguard the identity and purity of such drugs. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1593.)

Plant Juice.—"Plant Juice" is a "patent medicine" which is said to yield an annual profit of 90,000 dollars to Col. Frank A. Dillingham of Cincinnati. The Milwaukee Health Department reports that, in addition to 20 per cent. alcohol, "Plant Juice" contains aloes, licorice with possibly a little cascara sagrada or senna. This nostrum is advertised as "beneficial" in anemic conditions, nervousness, sickness and debility, headache, backache, dyspepsia and various other ills. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1685.)

Dakin's Hypochlorite Solution.—The following procedure is claimed to have superseded the previously published formulas: Stir 200 Gm. chlorinated lime into 5000 Cc. ordinary water and let stand over night. Dissolve 100 Gm. anhydrous sodium carbonate and 80 Gm. sodium bicarbonate in 5000 Cc. cold water and pour this into the chlorinated lime mixture, and shake for one minute. After one hour siphon off the clear liquid and filter it through paper. A portion of this must not become red if a little dry phenolphthalein is added to it. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

Toxinol.—Toxinol is a "syphilis remedy" marketed by the Hawes Chemical Co., Louisville, Ky. It is a shotgun mixture characteristic of the days when syphilis was treated with haphazard mixtures of iodides, mercury and vegetable "alteratives." The Council on Pharmacy and Chemistry has examined Toxinol and the claims made for it, and reports that Toxinol is ineligible for New and Nonofficial Remedies because it is an irrational combination of drugs, marketed under a name that is non-descriptive of its composition and with unwarranted and misleading claims.—(*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

Toxicity of Salvarsan.—From the reports of O. S. Ormsby and J. H. Mitchell, A. M. Moody and J. D. Ellis in *The Journal A. M. A.*, Dec. 9, 1916, it would appear that some of the salvarsan recently on the market has been unusually toxic.—(*Jour. A. M. A.*, Dec. 9, 1916, p. 1764.)

Mayr's Wonderful Stomach Remedy.—More than a year ago the proprietor of Mayr's Wonderful Stomach Remedy pleaded guilty in the federal court to the charge that the claim that the nostrum was a cure for gallstones, appendicitis and all stomach, liver and intestinal diseases was false and fraudulent. Nearly a year later on a placard over the store window of the Mayr establishment the following appears: "Mayr's Wonderful Stomach Remedy is the Only Known Cure For All Stomach, Liver and Intestinal Complaints. One Dose will Prove It." The federal Food and Drugs Act should have its scope extended so that all advertising for a product shall come under the purview of the act.—(*Jour. A. M. A.*, Dec. 9, 1916, p. 1774.)

More Misbranded Nostrums.—The following nostrums were found to be sold with false and fraudulent therapeutic claims: E. K. Thompson's Barosma Compound was found to be a watery-alcoholic solution containing bromid of potassium 3.85 per cent., potassium acetate 2.6 per cent., extract of buchu and sugar 18.4 per cent. It was sold under the inferential claim that it was a cure for Bright's disease, inflammation of the kidneys, etc.—Sayman's Vegetable Liniment Compound, sold for the treatment of deafness, fever, ague and even sore nipples, toothache and chilblains, was found to be a hydro-alcoholic solution of camphor, chloroform, capsicum, oil sassafras, ammonia and plant extractive, and probably turpentine.—Knorr's Genuine Hien Fong Essence or Green Drops was found to contain 69.72 per cent. alcohol (by volume), 0.35 per cent. ether (by volume), 0.28 grams nonvolatile matter per 100 c.c., flavored with oil of spearmint. It was said to be an excellent

remedy for diseases of the stomach and bowels and many other ailments.—(*Jour. A. M. A.*, Dec. 9, 1916, p. 1775.)

Arsenobenzol (Philadelphia Polyclinic).—Dr. Schamberg explains that the Dermatologic Laboratory of the Philadelphia Polyclinic availed itself of the opportunity to supply their product when salvarsan was not obtainable. Having so served this purpose in the interest of humanity and the public health, the marketing of their product was discontinued when the German product became again available. The laboratory is not established for commercial purposes and could not afford to become embroiled in patent litigation which would no doubt be instituted by the owners of the salvarsan patent.—(*Jour. A. M. A.*, Dec. 9, 1916, p. 1776.)

Sulfo-Selene-Walker.—*The New York Tribune* explains that it was caught "napping" when it gave space to a discussion of Dr. C. H. Walker's cancer treatment, "Sulfo-Selene." It explains that, while there is probably no single false statement in the published interview self-sought by Dr. Walker, the impression sought to be conveyed that Sulfo-Selene will cure cancer, rests on no such foundation of evidence as to justify a reputable and responsible physician in setting it forth in the public prints. *The Tribune* explains that Dr. Walker's preparation has failed to obtain that recognition which would have given it a scientific status, namely, recognition by the Council on Pharmacy and Chemistry.—(*Jour. A. M. A.*, Dec. 16, 1916, p. 1864.)

More Misbranded Nostrums.—The following "patent medicines" have been held misbranded under the Federal Food and Drugs Act, chiefly because of false and unwarranted therapeutic claims. Mrs. Winslow's Soothing Syrup, declared to contain 5 per cent alcohol and 1-10 grain morphine sulphate to each fluidounce together with oil of aniseed, caraway coriander, jalap, senna and sugar syrup(as now marketed the preparation contains no opiate). —Johnson's Iodized Extract of Sarsaparilla found to be a simple vegetable preparation with only an appreciable amount of potassium iodide.—Matusow's Nulfey contains 51.8 per cent. sodium salicylate. An alkaloid, probably berberine and emodin were present.—(*Jour. A. M. A.*, Dec. 16, 1916, p. 1865.)

Bromin-Iodin Compound.—This preparation was submitted to the Council on Pharmacy and Chemistry with the following formula: "Iodin Gr. 1, Bromin Gr. 1-4, Phosphorus Gr. 1-100, Thymol Gr. 2-3, Menthol Gr. 2-3, Sterilized Oil fl. dr. 1." According to the promoters Bromin-Iodin Compound is "A Powerful Anti-Tubercular Agent for Hypodermic Use in Pulmonary and Laryngeal Tuberculosis * * *" The Council declared the preparation ineligible for New and Nonofficial Remedies because the "formula" was impossible if it is intended to indicate the composition of Bromin-Iodin Compound; and meaningless if it is intended to indicate the ingredients used in the manufacture; and also because there was no satisfactory evidence for its therapeutic efficiency.—(*Jour. A. M. A.*, Dec. 23, 1916, p. 1958.)

Castrox.—Castrox is a castor oil emulsion claimed to contain castor oil 50 per cent., glycerin 10 per cent. with water and emulsifying agents. It was said to be prepared by a "unique three-day process with special apparatus and is more than 'just an emulsion.' It is a MUTUAL emulsion, for the oil and aqueous solution have been united without 'forcing' * * *" The Council held Castrox to be an unessential modification of an established article, marketed under a proprietary name and with claims which give a false value to a simple castor oil emulsion, and therefore not admissible to New and Nonofficial Remedies.—(*Jour. A. M. A.*, Dec. 23, 1916, p. 1956.)

More Misbranded Nostrums.—The following "patent medicines" were found misbranded under the Food and Drugs Act in the main because unwarranted and false therapeutic claims were made for them: Smith's Kidney Remedy, found to be a hydro-alcoholic solution containing glycerin, potassium acetate, trace of alkaloid, laxative extractive plant drugs.—Hill's Syrup of Tar, Cod-Liver Oil Extract and Menthol, essentially a sweetened hydro-alcoholic solution containing small amounts of chloroform, menthol, morphine and tar; ipecac, tolu, cannabis indica and wild cherry were indicated; cod-liver oil was absent. —Mag-No Brand Liniment, essentially an aqueous solution of ammonia, flavored with sassafras oil and colored.—Radway's Sarsaparillian, essentially a watery-alcoholic solution of sugar, potassium iodid, arsenic, a trace of alkaloids and certain plant substances.—Dr. Shoop's Diphtheria Remedy, consisting of

sugar syrup with a small amount of soluble chromate, glycerin and salicylic acid.—Dr. Shoop's Preventics, a table containing a small amount of unidentified vegetable extractive matter.—Hot Porous Plaster, essentially a capsium plaster.—N. H. Downs Vegetable Balsamic Elixir, a sweetened solution of opium, ipecac, glycerin, and small amounts of calcium, potassium, and iron compounds, flavored with anise.—Kopp's Baby's Friend, containing 8.5 per cent. alcohol and 1-8 grain morphin sulphate to the fluidounce.—Prof. Hoff's Prescription, formerly known as Hoff's Consumption Cure.—Dr. Haynes' Arabian Balsam, apparently a mixture of cotton seed oil, turpentine and oil of cumin.—Russia Salve, sold as a cure for conditions ranging from "cancers" to "mosquito bites" and from "swelled nose" to "ingrowing nails.—(*Jour. A. M. A.*, Dec. 23, 1916, p. 1956-1957.)

Lacteol.—This appears to be a lactic acid ferment preparation. The advertising material is of the usual extravagant character. The preparation is made in Paris and, since the bacteria lactic acid ferment preparations are short lived, may be inactive by the time it is used here.—(*Jour. A. M. A.*, Dec. 23, 1916, p. 1959.)

Sodium Cacodylate in Syphilis.—While Nichols has shown that sodium cacodylate is worthless as a spirocheticide, it is still being used in the treatment of syphilis, and it is the essential constituent of venarsen, a proprietary syphilis remedy. As a result of extensive clinical trials, Dr. H. N. Cole concluded that sodium cacodylate has no spirocheticidal value. At the utmost it has perhaps a slight action on the papular and nodular syphilids, but in no case is this effect to be compared with that produced by mercury and potassium iodid. In cases of syphilis with mucous patches sodium cacodylate is worse than useless.—(*Jour. A. M. A.*, Dec. 30, 1916, p. 2012.)

Tanret's Pelletierine.—The exact composition of Tanret's Pelletierine is not known, but is believed to be similar to the pelletierine tannate of the U. S. P. This is said to be a variable mixture of the tannates of four alkaloids of pomegranate. As only two of the alkaloids have tenifuge properties the activity of the different preparations varies with the proportion of these alkaloids which are present. —(*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

O-Do-Cure.—The A. M. A. Chemical Laboratory reports that a solution essentially similar to this "prescription remedy" may be made thus: salicylic acid 1 grain, boric acid 30 grains, alcohol 3 fluidrams, perfume sufficient, water to make 1 fluidounce.—(*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Mercuric Benzoate.—When mercuric benzoate is dissolved in sodium chloride solution for injection purposes a complex mercuric compound is produced in which the mercury is a part of the acid radical. It is safe to assume that the therapeutic effect of a given weight of mercury as mercury benzoate in a stated volume of sodium chloride solution will be the same as that of the same weight of mercury in the form of mercuric chloride in the same volume of sodium chloride solution.—(*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Quinine Injection.—By taking proper precautions the number of cases of abscess formation and necrosis from the injection of quinine may be greatly reduced, but the danger of their occurrence cannot be entirely eliminated. For this reason all authorities agree that the administration of quinine by injection should be confined to the most urgent cases of pernicious malaria. The two most important precautions are, that the injection must be intramuscular and that the solution should be dilute—not stronger than ten per cent. The best salts are quinine dihydrochloride and quinine and urea hydrochloride.—(*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

The Status of Antipneumococcus Serum.—The injection of the proper antipneumococcus serum in pneumonia caused by pneumococcus Type 1 is believed to be beneficial, but the serum treatment of pneumonia is still in the experimental stage. The pneumococci fall into various groups according to their immunologic relations and the first requisite for a rational use of the serum treatment of pneumonia is the determination of the particular type of the pneumococcus concerned in a given case.—(*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

SPINAL FLUID IN POLIOMYELITIS.

The material for a report by H. L. Abramson (American Journal Diseases of Children, Vol. X, p. 344) is taken from the records of the meningitis department of the New York City Board of Health and consists of 43 cere-

bro-spinal fluids from 29 patients. He finds that the cerebrospinal fluids of poliomyelitis and encephalitis show abnormal changes in practically all cases, but present no specific characteristics. Fluids from cases of encephalitis generally show a higher albumin-globulin content than do the fluids of myelitis or of the abortive cases. Fehling's solution is reduced by all fluids, but not in equal degree. Examination of the spinal fluid is the most important factor in clearing up the diagnosis in abortive and preparalytic cases.—*American Journal of Obstetrics.*

EXCERPTS FROM THE MINUTES OF THE COMMITTEE ON DRUG ADDICTION OF THE COMMITTEE ON SOCIAL HYGIENE OF THE NATIONAL COMMITTEE ON PRISONS.

It was regularly moved by Dr. Frederick Peterson and seconded by Dr. Samuel W. Lambert that it be resolved that in the opinion of the Committee, the Drug Heroin is of no real value in the practice of medicine, and that its place may be better taken by more efficacious agents that do not menace public welfare.

RESOLVED that the committee recommend Federal Legislation to prevent the importation, manufacture and sale of Heroin in the United States of America.

(*Signed*) SAMUEL W. LAMBERT, M.D.
FREDERICK PETERSON, M.D.
CHARLES F. STOKES, M.D.
FREDERICK TILNEY, M.D.
SIMON BARUCH, M.D.
Chairman Committee on Drug Addiction.

HELEN HARTLEY JENKINS,
Chairman Committee on Social Hygiene
Attested:
JOSEPH D. SEARS,
Secretary.

Excerpts from Other Journals

A SIMPLE METHOD OF CONCENTRATING TUBERCLE BACILLI IN SPUTUM AND URINE.

William Krauss, M.D., and J. S. Fleming, M.D., Memphis, Tenn., gives this method for sputum: Place 5 c.c. sputum in a 15 c.c. centrifuge tube, add 5 c.c. of 10 per cent. sodium chloride solution and shake in a shaking machine, or by hand if none available, until it is a thin homogeneous fluid as free from clumps as possible. Add 0.5 c.c. gasoline and repeat shaking process until the gasoline is thoroughly emulsified. Centrifuge at a low rate of speed until the gasoline forms a supernatant liquid immediately beneath which is a scum in which tubercle bacilli will be found if present in original specimen.

For Urine. Place 10 c.c. urine in 15 c.c. centrifuge tube and centrifuge three minutes at a rapid rate of speed. Pour off supernatant fluid. To the sediment add 10 c.c. of original urine and 1 gram of sodium chloride. Shake thoroughly or until the sodium chloride is dissolved and add 0.5 c.c. of gasoline. Shake again for about five minutes, then centrifuge slowly. The scum beneath the gasoline contains tubercle bacilli if present.

The use of gasoline embodies the same principle as would the use of ligroin. It gives good results, is cheaper and has proved much more satisfactory to us than the antiformin-chloroform method.

Often instead of using a centrifuge tube, a large size, narrow neck Babcock milk bottle is preferable, in that it affords greater concentration of the scum containing tubercle bacilli.

A trace of egg albumin to slide surface before making smear secures better fixation.—(*Journal of Laboratory and Clinical Medicine*, Sept., 1916.)

DEEP BREATHING

Since deep breathing is a popular health measure, advocated also by many physicians, a scientific consideration of the subject by a competent medical observer should be welcome. In the *Berliner klinische Wochenschrift*

for October 2, Professor Arnold Hiller writes on the action of deep breathing on certain important somatic functions. The author gives a résumé of the scientific literature of the subject since 1890. Deep breathing has been recommended chiefly for asthmatics and young candidates for tuberculosis, especially children. Aside from these uses the exercises are employed to promote euphoria and efficiency. In 1890 the author was recommending sea bathing because it was naturally calculated to ventilate the lungs through the combination of high atmospheric pressure and the sea breeze. The first component to receive his attention was diaphragmatic breathing, which in superficial breathers is the only form in use. As the diaphragm descends with forced inspiration it compresses the soft, plastic tissue of the liver and increases the passage of the blood through that organ. At the same time it increases the secretion and excretion of bile. Any condition like gallstone disease which is aggravated by stagnation in the liver may in theory be prevented by deep diaphragmatic breathing. The stomach, when filled with food, may likewise be favorably influenced by the same factor; because the movement of the stomach-contents through the pylorus is facilitated. The influence exerted on other abdominal viscera, such as the spleen and kidneys, is problematical.

Costal breathing is concerned chiefly with the upper portion of the chest and promotes the circulation of blood in the lungs and heart, because as the chest expands the blood in the great veins is forced toward the heart; while at the same time the circulation of the brain is somewhat depleted when for any reason that organ is congested. Under favorable conditions a deep inspiration with expansion of the chest may be seen to empty the distended veins on the backs of the hands. As similar conservative action may be demonstrated in cases of varicose veins and hemorrhoids. So far as any alleged danger of emphysema of the lungs is concerned, the author has seen the latter condition disappear under deep breathing. To return to the heart the author insists that deep breathing causes a physiological hypertrophy of the right side, in which the musculature is apt to be relatively weak.

The subject of the respiratory exchanges, which naturally is one of vast importance, is left by the author to the last. An increased intake of oxygen naturally stimulates metabolism. Increased combustion of carbohydrates may cause a notable reduction in weight, while all products of incomplete catabolism become fully oxidized. Deep breathing is therefore the most scientific resource for the prevention of uric acid disease. Much depends upon a correct technique. One must begin with diaphragmatic breathing, which naturally precedes rib breathing. The inspiratory movements are now slowly increased until all the muscles involved in rib breathing gradually participate. One begins with three daily periods of 15 or 20 minutes each. The position of the breather is immaterial, and he may do his forced breathing while standing or walking. The author makes one assertion which should be modified slightly. It is true that continuous deep breathing will cause an increase in the volume of the radial pulse, but in some individuals a very deep breath appears to arrest the pulse because of the compression of the subclavian artery by the fully inflated apex of the lung. Hence inspirations should be limited to a certain number per minute.—*Medical Record,* Dec. 29, 1916.

THE AMMONIACAL DIAPER IN INFANTS AND YOUNG CHILDREN.

According to J. Zahorsky (American Journal Diseases of Children, Vol X, p. 436) if much ammonia is present, severe irritation and vesication of the diaper region may occur. The ammonia is derived from the ammonium compounds in the urine, and is liberated by an alkali present in the diaper—soap, lye, lime or stool. When the diaper, which has been washed in a strong alkaline soap, is not thoroughly rinsed in clear water, sufficient alkalinity remains in the cloth to decompose the ammonia in the urine. This is the origin of the "common" saying that strong soap or lye in the diaper blisters the baby. It is not the alkali or soap on the skin, but the ammonia produced, which causes the skin irritation. An alkaline stool mixed with urine acts the same way, and we have often attributed an intertrigo to irritating feces, when it was really caused by ammonia.—*American Journal of Obstetrics.*

SOME DOCTORS ENEMIES OF PROGRESS

An Editorial by Arthur Brisbane

The World's Highest Salaried Editorial Writer

The most useful, unselfish servant of the public is the competent, skillful, broad-minded doctor.

He gives his time, energy and often his life, to the diseases of others — an unpleasant business.

If he makes a discovery that in selfish hands might mean a fortune, he gives it to the world free.

On the other hand, there is no more dangerous enemy of progress, and particularly of medical progress, than the self-satisfied, ignorant physician, whose mind, if it ever thought, stopped thinking on the day he got his diploma and his license to sell pills and peddle solemn, meaningless talk.

When Harvey announced the circulation of the blood, the "great and learned physicians" laughed at him, declared that the blood is in the body like the juice in an orange — and they went on with their "bloodletting" first on one side and then on the other, to keep the juice evenly distributed.

When Pasteur was announcing one after another of his great discoveries, refuting the stupid theory of spontaneous generation, proving that disease, decay, suppuration, etc., were not caused by "breaking down of tissues," but by specific, hostile germs or bacteria, the doctors denounced him and advised him to "stick to his chemistry and things that he was able to understand."

At that very moment he was giving to the whole world of medicine the knowledge on which it has lived and on which it has worked ever since.

When one of Pasteur's collegues announced that tuberculosis was caused by a certain, definite germ, and by nothing else, and that the destruction of that germ would mean the destruction of tuberculosis, he was called in polite terms a scientific idiot.

A great medical authority of France, with his blue coat and his gold buttons, sneeringly said: "Then all we need do is spread nets for the tuberculosis germ, and the thing is ended."

When Nathan Straus began his work, based on the discoveries of Pasteur, a work that has spread over the whole world, and saved the lives of hundreds of thousands of children, it was the ignorant doctors that opposed him. And not a few of them oppose him still, some because they are simply ignorant, others for reasons not quite so creditable, perhaps.

Now comes Dr. Carrel, the great French surgeon, to announce a new system of treating wounds that does away with 50 per cent. of the amputations, saves lives and avoids removal of bones and muscles.

The superficial wound, ever since the day of Lister, has been thoroughly cleaned and made and kept "aseptic," free from poisonous germ matter. The deep, rough, lacerated wound hitherto has been inaccessible to such treatment.

Dr. Carrel now irrigates the wound in all of its deepest recesses with a disinfecting fluid. It kills the poison, washes out the foreign matter, closes up the wound, and the patient recovers.

Quite as a matter of course, Dr. Carrel mentions the fact that the use of this new idea has been much delayed because "the lights of the medical profession" have steadily opposed it, fought it and prevented it.

We have those with authority to confer degrees and diplomas on doctors, giving them authority to practice on human flesh and blood.

We should have another body of well-informed, up-to-date men, sitting perpetually, hearing complaints. Authorize them to take away from narrow-minded or ignorant or out-of-date physicians the right to practice.—St. Louis *Star*.

EDUCATING THE LEGISLATORS

In the last session of the Legislature one of the representatives from Jasper county introduced a bill to license chiropractors to treat the sick and injured. On being questioned by members of the Jasper County Medical Society as to the bill this legislator exclaimed that he thought the bill was to license chiropodists admitting that he did not know the real purport of the measure he introduced.—*Journal of the Missouri State Medical Association.*

DOWN BELOW

Him:—"I have a friend who suffers terribly from the heat."

Her:—"Where does he live?"

Him:—"He isn't living."—Lehigh Burr—*Drug Topics.*

News Notes

Dr. Walter D. Berry, formerly of Burlington, is now in Braintree, Mass.

Dr. E. L. Averill, formerly of Brandon, is practicing in Akron, Ohio.

Dr. J. Lewis Gammons, U. V. M., 1904, is located in Yonkers, N. Y. He limits his practice to eye, ear, nose and throat.

Dr. H. D. Holton, of Brattleboro, secretary for many years of the Vermont State Board of Health, is ill. Dr. Holton has of late been having attacks of hiccoughs which have been a severe strain upon his health.

Dr. J. Robert White, of East Lynn, Mass., son of Mr. and Mrs. William J. White of Williamsville, has been commissioned an assistant surgeon with the rank of lieutenant, junior grade, in the United States naval reserve medical corps. He is a graduate of Tufts medical college and has been practising in East Lynn.

Dr. Harry P. Greene of Brattleboro has received his appointment as Central Vermont surgeon at that place. He was one of the several applicants for the position after the retirement of Dr. C. S. Pratt, last November. Dr. Greene has been, since 1914, the Boston and Maine surgeon in Brattleboro.

Dr. Claude L. Wheeler, the editor of the New York Medical Journal, since 1909, died of pneumonia at his home in New York on December 30. He was born in Montreal in 1864 and took his medical degree at McGill University in that city. He practised medicine in Burlington, Vt., and later specialized in disease of the eye in New York.

Dr. Winford O. Wilder, formerly a resident of this State, who has been connected with the hospital service in France for the last fifteen months, arrived in New York New Year's eve, and is now visiting his sister, Mrs. C. H. Morton in St. Albans, before going to Philadelphia for the winter. Dr. Wilder went to France with a Harvard unit and when his time with the unit had expired he was made head of the hospital maintained by Mrs. Harry Payne Whitney.

Dr. W. R. Rowland, a graduate of U. V. M. and for many years a practising physician in East Corinth, has given up his medical practise to enter the ministry. He has accepted a call to the circuit of Universalist churches at New Madison, Greenville and Palestine, Ohio, beginning his work on January 7. Dr. Rowland has been prominent in the Universalist Denomination, holding a license as a lay preacher and serving as a member of the Executive Board of the Vermont Convention for ten years. He has also been interested in politics having twice been the candidate of the socialist party for Governor.

An official notice has been sent out by Adjt.-Gen. Lee S. Tillotson of St. Albans, that the medical detachment of the First Vermont Infantry has been removed from Burlington and stationed at Pittsford, the home of Maj. Thomas J. Hagan. Dr. William H. Mitchell of Shelburne, who has served as lieutenant with the detachment, has resigned. He is a member of the medical reserve corps. The detachment, after a few days following the service on the border, dwindeled down to less than a half dozen men and on account of the slowness in recruiting it was deemed advisable to remove the headquarters.

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Original Papers

FRACTURES OF THE LOWER END *OF THE HUMERUS*

JOHN B. WHEELER, M.D., BURLINGTON

Read before the Vermont State Medical Society, October 12, 1916.

These fractures form a large part of the unwelcome group of elbow-joint injuries, which are a source of anxiety to anyone who has the care of them. Their importance and their troublesomeness to practitioner and patient are my reason for calling the attention of the Society to so old and so familiar a subject.

They occur much oftener in childhood than later life, a fortunate fact, as the results in children are much better than in adults. But it takes time to get results. The stiffness and deformity, which are present when the patient leaves the doctor's hands, are often so discouraging that it is hard to believe that the arm will ever be useful. But elbow function improves for months after splints and slings have been discarded, and it takes from six months to a year before end results can be estimated accurately. Contrary to the general impression, it is rare to find serious impairment of elbow function in a child, a year after the accident, although much deformity may persist. The exceptional cases are the ones in which it has been impossible to reduce the fracture properly, or in which the after-treatment has not been properly carried out. In adults, restoration of function is not so complete, as a rule. In spite of skillful reduction and intelligent and conscientious after-treatment, freedom of joint motion is often impaired by adhesions, exostoses, or masses of callus which fail to be absorbed.

There are various reasons for this difference in favor of childhood. One is the great reparative and absorptive power which characterizes the period of growth. Another is that while the child keeps on growing, the condition which interferes with function does not grow correspondingly. Another is that as it takes comparatively little force to break the small, delicate bones of a child, less injury is done to the bone than in the case of the adult, whose heavier bones yield only to force great enough to impair their vitality as well as to break them. In adults, fracture is almost always caused by direct violence, a heavy fall on the elbow, or some blow or crush which injures the soft parts as well as the bone and often produces a compound fracture. In children, fracture of the lower end of the humerus may be, and generally is produced by indirect and not very great violence, such as a fall on the hand. So that in the case of the adult,

the injury to the bone is greater and the reparative power is less than in the case of the child.

The lower end of the adult humerus can be fractured in various directions. The fracture may be transverse, running across the bone, through the condyles or just above the condyles, a very common form of fracture. The "T" fracture, transverse with a longitudinal fracture extending down into the joint, sometimes occurs, but not as often as was supposed before the X-ray showed the exact condition of things. It is really a rare injury. The whole external condyle may be broken off, a frequent occurrence. The external epicondyle is very rarely broken alone. The internal condyle and epicondyle are broken less often than the external condyle, and the capitellum is sometimes, though seldom, broken.

Children have the transverse fracture and no other except such as are practically epiphyseal separations. The whole epiphysis may be separated, or the external condyle or the internal epicondyle may be broken, the line of fracture practically corresponding with the epiphyseal line.

Diagnosis. In making the diagnosis in a case of injury to the elbow, the first point to determine is whether the bony landmarks have their normal relations with each other. At the risk of being tedious, I will call attention to these relations, although they probably are familiar to all of you.

If the normal elbow is extended and we look at it from behind, we see that the condyles and the olecranon are practically on the same level, though the olecranon is really a trifle higher than the condyles. We also see that the olecranon is practically mid-way between the condyles, though actually it is a little nearer to the internal than to the external one. If the joint is flexed at a right angle these three points are all in the same vertical plane; or in other words, a flat surface held against the posterior surface of the elbow flexed at a right angle, will touch the olecranon and both condyles. An elbow whose bony landmarks do not show these relations is not a normal joint.

I suppose it is hardly necessary to state the very important rule, that in examining an injured elbow, the sound one should be stripped and compared with it.

Fractures of the lower end of the humerus usually fail in some particular to meet the above requirements. They show in addition the ordinary signs of fracture, namely pain, swelling, impairment of function, and frequently crepitus and abnormal mobility of fragments, though swelling is often so great as to conceal the landmarks and prevent the recognition of crepitus and mobility. Transverse fractures are almost always accompanied by backward displacement of the lower fragment. This, of course, carries the olecranon with it, so that the olecranon projects backwards somewhat as it does in a backward dislocation. But in the fracture the projection is not so sharp as in the dislocation and if the swelling is not too great, palpation will show that the relation of the olecranon to the condyles is normal, while in the dislocation the olecranon projects far beyond the condyles. In the fracture, palpation of the anterior surface of the joint shows only the small lower end of the upper fragment, while in the dislocation the large mass

of the lower end of the humerus is easily felt. The crepitus and mobility, usually associated with fracture, can be detected by holding the upper arm firmly, flexing the fore-arm to a right angle, and moving it forward and backward, or by extending the fore-arm and moving it from side to side. In this fracture the "carrying angle" of the fore-arm with the upper arm generally disappears and we often find the "gun stock" deformity instead. In the rare cases of forward displacement of the lower fragment, the lower end of the upper fragment is felt on the posterior surface of the joint, while the olecranon is displaced forward instead of backward.

"T" fractures are hard to diagnose without the X-ray. The lower end of the humerus is more or less widened, but swelling generally renders this condition unrecognizable. The crepitus cannot be distinguished from the crepitus of an ordinary transverse fracture.

Fractures of the external condyle show swelling and tenderness on the outside of the joint and sometimes loss of the carrying angle. If the swelling is not too great, the loose fragment can be felt. This may be done by having the assistant hold the upper arm firmly, while the surgeon grasps the condyles between his thumbs and forefingers, the thumbs in front and the forefingers behind. Mobility and crepitus of either condyle can thus be detected. The external condyle is no longer on a line with the olecranon and internal condyle, and there is often some lateral motion of the joint. That the injury does not involve the whole lower end of the humerus is shown by the impossibility of moving the ulna backward.

Fracture of the external epicondyle is so rare as to be of little importance. For all practical purposes it is the same thing as fracture of the external condyle, except that the injury is less severe and the prognosis better.

In fractures of the internal condyle, mobility, crepitus and displacement are ascertained in the same way as in fractures of the external condyle. The swelling and tenderness are on the inside of the joint, which often has a marked lateral motion, and as the fracture extends into the joint, involving the surface with which the ulna articulates, the ulna can sometimes be carried backwards somewhat as in a transverse fracture of the lower end of the humerus.

Fractures of the internal epicondyle are shown by the short, broad feel of the condyle, as compared with the sound one, and by the fact that while the patient can move the elbow pretty well, a good deal of pain is caused by the action of the muscles which originate from the epicondyle, i. e. the flexors and pronators of the hand. These muscles are apt to show some atrophy afterwards.

When the capitellum is broken off, it lies in the joint like a foreign body and interferes, suddenly and completely, with either flexion or extension. The appearance of this symptom immediately after an injury, is strong evidence of fracture of the capitellum.

After thoroughly examining the joint and noting the presence or absence of the conditions which have been mentioned, the conclusions reached should be tested by using the X-ray. The light which each method of examination throws upon the other, is of great, almost indispensable assistance in arriv-

ing at a correct idea of the actual condition.

Prognosis. The result of a fracture of the lower end of the humerus depends upon the extent to which the bone and soft parts are injured, the accuracy with which the fracture is reduced and the manner in which the after-treatment is carried out. A displaced fragment may become fixed in such a way as to interfere with perfect motion of the joint, or motion may be hindered by filling of the olecranon and coronoid fossae with callus. Volkmann's contracture, or ischemic contracture of the muscles of the forearm, due to interference with the circulation, may result from splints or bandages too tightly applied, or from excessive swelling which prevents a proper blood supply from reaching the muscles. In fracture of the internal epicondyle, the displaced fragment may press upon the ulnar nerve and produce pain and paralysis. The "gun stock" deformity may result, in transverse fractures, if the lower fragment is tilted or rotated. This deformity is not of great importance, except so far as looks are concerned. It sometimes causes a little inconvenience in carrying weights, but does not interfere with flexion or extension. It may be well to repeat that, as regards function, final results are apt to be good in children, while in adults perfection of function is seldom attained. In both children and adults deformity is often marked, even in some cases where function is good, and in neither respect is the outcome certain enough to justify any but a very guarded prognosis.

Treatment

Reduction. This should be performed under an anesthetic whenever possible. In nearly all transverse fractures there is a backward and generally a lateral displacement to be corrected. To correct the backward displacement the assistant grasps the upper arm, and makes counter extension upward, while the surgeon grasps the forearm just below the elbow, with his left hand, and the wrist with his right, presses down with his left hand, and pulls forward and upward with his right. When the elbow becomes flexed at a right angle, the surgeon's left hand is shifted to a point just above the elbow, where it makes counter extension by backward pressure, while the forearm is pulled directly forward with the right hand. If the lower fragment shows lateral displacement after the backward displacement is thus corrected, it should be pushed and manipulated into place. In a case of forward displacement, the elbow should be flexed at a right angle and, while downward traction is made on the forearm, the lower fragment should be pushed back into place.

Fractured condyles, if displaced, should also be pushed and manipulated into the best possible position. No definite rule can be given for these maneuvers. "T" fractures are reduced like transverse fractures.

In cases where the swelling is very great, diagnosis may be impossible. Even if the diagnosis is made by aid of the X-ray, reduction may be very difficult. In such cases it is better to put the arm on an anterior right angle splint and wait a week or ten days, and then, when the swelling has gone down, it will be much easier to reduce the fracture and the bone will unite about as soon as if the fracture had been reduced at once. When the fracture has

been reduced, the correctness of the reduction should be tested by ascertaining whether the condyles and the olecranon are in their normal relations. Of course the verdict of the X-ray should be obtained if possible.

Retention of Fragments in Position. The normal relations of the correctly reduced fragments are best maintained, as a rule, by fastening the elbow in the position of acute flexion, that is with the forearm flexed on the upper arm as far as possible, without stopping the radial pulse. In this position the triceps tendon is drawn tense and prevents backward displacement of the lower fragment, and as the position relaxes the forearm muscles, their spasmodic contraction is minimized and the danger of dragging the broken condyle out of position is diminished. Nevertheless acute flexion is not always the best position. Transverse fractures rather high above the joint are often better treated with the elbow at a right angle, and the arm bandaged to an anterior right angle splint. The best rule to follow is to put the elbow up in the way that best retains the fragments in position. In most, but not in all cases, acute flexion will answer the purpose better than anything else. Complete extension should never be employed. It increases the posterior displacement and is apt to result in stiffness of the joint, with the arm in a position that renders it almost useless. The only condition in which complete extension is indicated is fracture of the olecranon, with which this paper has nothing to do. (Demonstration of acute flexion and right-angle splint.)

After-treatment. The arm should be inspected every day for the first week and once or twice a week for the next two weeks. Whatever apparatus is used should not be disturbed oftener than is absolutely necessary, but splints get uncomfortable and bandages get loose and sometimes the fragments get out of position and have to be replaced. If splints or bandages have to be reapplied when the position of the fragments is good, of course the greatest care should be taken not to stir things up. At the end of three weeks, splints and bandages may be discarded and the arm can be carried in a sling. The patient may now begin to make active motion of the joint. This he will naturally do carefully at first and progress will be slow, but perseverance will gradually show results, and as a rule satisfactory function will gradually be restored. At the end of two months, when union is tolerably firm, fairly vigorous passive motion may be employed. At the same time extension can be improved by carrying weights in the hand and flexion by leaning against the hand so as to push it towards the shoulder. Later such gymnastics may be tried as hanging by the hand or holding weights at arms length.

Passive motion I distrust, within six weeks or two months of the injury. The reason for its early employment (two weeks after the injury, as is a not uncommon practice) is a fear of stiffness of the joint from too long a confinement in one position. Now the permanent stiffening which may follow the fractures under consideration, is due either to exuberant callus formation, to the adhesion of a displaced fragment in some abnormal position, or to intra- and periarticular inflammation, the result of the injury. Passive motion employed

before such inflammation subsides, will only increase inflammation and callus formation and thus will promote stiffening instead of preventing it. The only way in which confinement can stiffen the joint, is by contracture of the muscles which move it and this does not occur within the first three weeks after the injury.

Later, after acute inflammation has subsided and union is firm, passive motion may be of great service in stretching or breaking up adhesions, but it seems to me a mistake to use it in the first month, unless it might be in a case where the patient is so timid that he cannot be induced to make active movements of the joint when the apparatus is removed. Under these circumstances passive motion might be used, but only with the greatest care.

Operative treatment is reserved for compound fractures and for those simple fractures in which it is evident, not only that satisfactory reduction is impossible, but that the existing condition will interfere seriously with joint function. The best example of this is detachment of the capitellum, in which case there is nothing to be done but to remove the fragment, which cannot be reduced and lies like a foreign body in the joint. Other conditions in which operation is indicated are displaced and irreducible condyles and transverse and "T" fractures whose fragments cannot be retained in satisfactory position by other means. In old cases where motion of the joint is greatly restricted by callus, exostoses, or dense, old adhesions, some operation is necessary, from the removal of a small exostosis to complete resection of the joint. The latter operation produces a flail joint, but the arm is useful in spite of that.

(At the close of his paper, Dr. Wheeler, with the aid of Dr. Thomas, who represented a patient, illustrated the method in which acute flexion should be applied, and the use of the anterior right-angle splint.)

DISCUSSION

Question:—Will Dr. Wheeler please explain once more the condition of a fracture which requires that acute anterior flexion?

(Dr. Wheeler)—Almost any of them, but one which it will not do so well is a fracture which is pretty high up above the joint and a fracture which is an anterior displacement instead of posterior. The splint that is sometimes used in my opinion is very poor piece of apparatus. It does not hold the arm steadily, and it covers the elbow up, so if you want to see what the fracture is like, you have to take the splint off and take everything to pieces. In regard to what kind of fractures do the best in acute flexion position, these diagrams here are taken from the X-rays of a patient that I had about three months ago, a boy who broke the lower end of the humerus right off just above the elbow. This shows first the position before any splints were applied, then the position after the anterior right-angle splint was applied, which I tried first, which you see is something of an improvement on the first position, the lower fragment is brought nearer the other one, but it is still tilted. Here (indicating) it is in acute flexion, and while it is not quite perfect, it is very much better than in this position. It would probably be impossible to do better than that unless you operated, and fastened the ends together in some way, and even then the result is not always ideal.

This diagram (indicating) shows anterior displacement of the lower fragment. When the arm was acutely flexed, it pulled the lower fragment forward, and produced a good deal of displacement. That condition is so rare that you could almost set it down as an absolute rule that acute flexion is a better position

for the treatment of fractures of the lower end of the humerus than the right angle. There is an article in a recent number of the *Boston Medical Journal*, in August or September sometime, on this same subject of fractures of the lower end of the humerus, in which he gives the list of fractures treated by the Children's Hospital in acute flexion, most of them acute flexion, but with three weeks' development in one position, and then active motion, with results which are surprisingly good, and which compare very favorably with cases treated for two weeks on a right-angle splint and then after two weeks, passive motiou applied. Those cases showed perfection in about 52 per cent, and his in over 90.

(President)—I will call on Dr. Bartlett to say something on this subject.

(Dr. Bartlett)—I expect after dinner, in a paper or something, to touch upon that same subject, and I thought perhaps I would let it go until that time.

(Dr. Blodgett, Bellows Falls)—I would like to ask Dr. Wheeler whether in fractures of the fore-arm he prefers the splints made in the office from splint boards, etc., or the tin affairs that you can buy. If he has any suggestions to make on the results especially, and with regard to both anterior and posterior splints.

(Dr. Wheeler)—In reply to Dr. Blodgett's question, I am a great believer in the splints made to order, not in the splint that you buy from an agent that is good for almost anything, and when you come to try it, is never adapted to the particular case you have in hand. I think we can do better with the splints that we make ourselves, except perhaps foi something of this kind (indicating), where if you want to use one of these right-angle splints, it is very handy to have a thing like that made by a tinsmith, because you can trim that very easily to fit almost any arm. But in fractures of the fore-arm, I like much better to take a couple of light pieces of board, pad them well, and apply them, and then I can make it and fit it just as I want. I understood Dr. Blodgett to speak of fractures of the bones of the fore-arm, but in Colles' fractures, I like to use a splint which can be cut out of a piece of whitewood which comes up nearly to the elbow, comes down here (indicating), and is cut away there to allow space for the ball of the thumb, then comes up to the palm of the hand as far as that (indicating). That gives play to the fingers and thumb, which it seems to me is a pretty important thing. And then on the back of the hand, a shorter splint running from the knuckles back to four or five inches from the joint. I do not see any harm in carrying it the whole arm, but I do not see any object. It doesn't make very much difference what kind of splint you use in that kind of a fracture as long as you get it perfectly reduced. It really isn't very necessary to do this cutting on the thumb splint, but I think it gives the best satisfaction, even if it is just a flat piece of board.

I don't like the idea with a Colles' fracture of fastening the fingers in an extension. There may be some adhesion of the tendons to the sheath right over the break, and if the fingers are in an extended position, it is a good deal of trouble getting them limbered up again, by motion. If the fracture is well reduced and the splints well applied, with the motion that can be made with the fingers and thumb, and the use of them, the patient is not so badly crippled, and I think he recovers the use of his fingers quicker.

(Dr. Blodgett)—Do you find there is very much danger with a tin splint and bandage of getting the bones too near together, so you don't get extension?

(Dr. Wheeler)—Yes, I like to put splints on with the arm in that semi-prone position, so the bones will be as far apart as they can be. It seems to me the two boards answer better than any arrangement I ever saw. If the bones of the fore-arm are broken up here, I like to put those splints on, and then this angular splint beside to stay the elbow, and then bandage them outside of the other splints. There is another kind of an angle splint made like that (indicating) which is supposed to fit in that way so that the arm can more easily be put in a semi-prone position. I don't see myself that there is any very great difference. You can put the other one on so that it can lie that way, and this is a more difficult thing to make and more difficult to show how it should be made. For the right-angle splint, I think an ordinary piece of tin is as good as anything, but for fractures of the fore-arm, I like the wooden splints made in the office, they are better than anything I ever saw in my life.

Vermont Medicine

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Rutland, Vt., February, 1917.

Editorials

THE USE OF ENGLISH BY PHYSICIANS

Some time since, an editorial in the London Lancet drew attention to the kind of English that is written by medical men in England. It was rather a severe arraignment of the medical profession, and, what is worse, it was strictly true. But what would the Editor of the Lancet have to say of the medical books written in this country, the addresses delivered and the papers read and published, and the hideous words coined here by some of our eminent professional men? There is an ancient adage that whatever is worth doing is worth doing well, and surely the same is true of whatever is worth saying. But in the hurry and rush to get a thing said, there appears little care in the propriety of its utterance. The style in which many excellent works are written thus becomes an active offense to a delicate reader through an uncouth presentment of ideas. Sir Thomas Browne refused to enter upon certain discussions in the fear lest the cause of truth should suffer through his inadequate advocacy. Words, though their use is common to all men, should not be considered less valid instruments in our hands than other instruments of equal precision and narrower scope. The fact is that medical terminology is an absurd welter. Blackstone can be read with pleasure by one who is not a lawyer, and Chitty, and Ram on Facts. Huxley found no difficulty in expressing his thoughts in perfect and delightful language. To read Huxley or even Darwin is to enjoy a pure pleasure. It would be ungracious to oppose to these great men the names of our medical writers of today whose books are full of offensive and tedious solecisms. And aside from their grotesque barbarities of style they are good books, and contain often invaluable records of experience and observation—if one could only read them without annoyance.

An English biologist, observing under the microscope the irregular division of some cells that he was studying, coined a word to express the process. He called it "karyokinesis." There is an obvious difficulty in searching for

Greek words to express an idea that no Greek could ever entertain, but the fact did not daunt him. He found a word which meant "a nut" and another word which denoted "motion" and put them together and—there you are! So a contemporary and countryman of our own, wishing to describe a theory of nerve-blocking, coined the word "anociassociation,"—a hideous compound! Such words do not express, but overwhelm, the idea. And in the tangled terminology of pseudo-psycho-therapy, what definite clarity is imparted by masquerading ordinary advice and encouragement under the title of non-hypnotic suggestion?

It is easy to be hypercritical but it is a good deal easier to be careless, and to either carelessness, ignorance or scientific affectation (the most incongruous of all combinations) must be ascribed the barbarisms of medical nomenclature. Dr. Johnson often remarked that a man might become very eminent in his profession without evincing any especial force of mind in other directions. "It is remarkable," he added, "that one should see so far to the right and so short a distance to the left."

We alluded to the difficulty of attempting to express in Greek words ideas that the Greeks did not have. The compounds of gaster are a case in point. In its own language gaster never signified the stomach but the belly, the Greek word for stomach being the original of our own. As the most important organ in the belly the womb came, by a well known figure of speech, to be designated by the word gaster. Thus confusion arose. Gastrohysteropery has nothing to do with the stomach for it describes the operation of attaching the uterus to the abdominal wall; while gastrohysterectomy has nothing to do with the uterus since it means an excision of a part of the stomach. Gastrotomy might be either Caesarian section or an operation into the stomach. Gastrotomy anticipates perfectly the meaning of laparotomy, which, by the way, should be laparatomy. Galen used the word gastrorrhaphy for sewing up a wound of the belly. Hooper (1817) also thus defines gastroraphy.

The heart has become the seat of many philological diseases. In the February number of the Arch. of Pediatrics there are two articles on the Cardiac Child, referring perhaps to children with disease of the heart. Tachycardia is an unfortunate word. The heart has movement but not motion, and a heart-tachycardia would be a migratory heart. Nor is bradycardia any better. The heart is neither swift nor slow, the heart's action is what is meant. Moreover these words, ugly as they are, let down the bars to a whole invasion of barbarisms, for some one will eventually come forward with a genius for exact classification, some new Cullen or Linnaeus or Vogel, and develop the progressive degrees of signification and we shall have tachiocardia and tachistocardia as well as bradiocardia, brassocardia, braduterocardia, and bradistocardia.

Occipito-anterior and arterio-sclerosis are likewise philological absurdities, and should as soon as possible be reduced to their true form of occiput-anterior and arterial sclerosis. So ventrofixation, if it had any excuse for existence, should be ventral fixation. There seems to be a fondness at present for the phrase, persecutory delusions;

persecutional is clearer since they are delusions of persecution and only vaguely, if at all, of any individual persecutor. Similarly, secretional is better than secretory in the often used phrase "secretory disturbances." And this brings us to endocrine—a dreadful neologism which means absolutely nothing. The Greek word krino from which the latter part of the word seems to come means simply divide and might be applied to a decree of divorce as well as to the internal secretions of the body. When the Greek krino became metamorphosed into the Latin cerno it took up the inseparable proclitic se which added a new idea to the root and that idea is still dominant in the words seclude, secede, separate, as well as secret and secrete. But the Greek word did not have that idea, and to carry it back now to a Greek root and then forge a medical term from it is to carry philological legerdemain too far. It is to utter a counterfeit.

Again, pediatrics must, if true to its etymology, limit itself to the surgical diseases of children. Confusion would have been prevented if the spelling of the first syllable had been retained—pae—since a pediatrist is not one who pays especial attention to the woes of pedestrians. Still, the idea of infantry is common to them both. And orthopediatria or pediatria is preferable to orthopedics, if either were necessary, and an orthopedic surgeon is merely a surgeon whose own feet are above reproach.

I have not spoken of hybrids—words of mixed Greek-Latin or Greek-English or Latin-English, common as they are, because they have been often criticised. I note in passing that Cabot uses nocturia for nycturia.

Many of our eminent physicians use language that would not pass the scrutiny of a sixth-grade school. Salinger says, "This was supervened by pains in the muscles of the calf," when he perhaps means to say, followed by, accompanied with, or superseded by. Hare coins the adjective agonal to denote something pertaining to the death agony. It cannot be so used. If there were such a word in our language it could only refer to the feast celebrated twice a year in Rome in honor of Janus—the agonalia. Hare is very careless. Singular subjects with plural verbs abound in his writings—"The use of vegetables are of value," and many others where the intervention of a genitive plural throws him entirely off his feet. We can only conjecture with a shudder what he was before the proofreader took his English in hand. The abuse of the word operate in a transitive sense is very common. The word means of course, to function, to cause to function, to be employed upon. It has also the secondary meaning, to work, but that conveys a vulgar implication that even the surgeons themselves would resent as applied to a patient. You do not operate a patient, and the patient is not operated in any etymological sense, although he doubtless often thinks he is in a financial one. One word more in this vein before we pass from it. Eclampsia alludes to a peculiar luminous effect in the eyes of epileptic patients,—a brightness, a scintillation, which Hipprocrates observed and from which he drew a name for epilepsy. It comes from the same root as our common word lamp. Epilepsy

was the name of a legal process in Athens, a seizure of goods in law. The sudden and unexpected method of legal seizure is thus transferred to the instantaneous onset of disease. There would seem to have been no "law's delay" in ancient Athens when it came to distraint for debt. But the word itself should be pronounced epilépsy and not as is usual among us.

Such are a few solecisms that occur to us in writing of the use of words by medical authors. But what can we say when our eyes are lifted from simple words to the contemplation of the literary style that prevails among us? From an article on Blood Pressure in one of our most widely read magazines we read, "What is meant by blood pressure? By blood pressure is meant the amount of blood pressure which must be excited on outside of an artery in order to equalize that in the vessel." Aristotle, the excellent definer, could not have written that. The same author continues, "The function of the arteries is to assist the heart in its efforts to propel the blood through its various arteries and exert a powerful influence on the current of the blood in general." "Hypotension," he says a little later, "is simply the opposite of hypertension. * * * In hypotension the blood accumulates in the veins, causing a venosity." The writer of these bitter words is doubtless a conscientious doctor, but what business has he with a pen?

When such are the good, what must the bad be? A writer on "Rational Diet," in another widely read medical journal, wrestles manfully with the distinctions between animal and vegetable life.

"Both," he says, "have the same manner of growth; that is, from the inside. Both are cellular structure. How then can we tell a man from a turnip? Chiefly in this, that the man is possessor of a stomach and the turnip possesses none. The turnip not having a stomach must needs ever stay fixed immovable to one spot with her nose in the feeding trough, mother earth. The man possessing a stomach allows of locomotion, and therefore is not compelled to stay attached to one spot for fear that if he leaves it an hour he will starve to death. But being in possession of a stomach he can leave his feeding trough, and being also possessed of the power of locomotion, can range forest, field and stream in quest of food, and can get along with more or less intervals of eating, say two or three times a day."

This is the kind of meat which hundreds of physicians find in their medical journals, and which doubtless they dispense in driblets among their admiring patients. This is the idealistic philosophy of medicine as understood and expounded by physicians over large areas of the United States.

To conclude. Is it possible to erect some standard of literary excellence to which writers on medical subjects shall be compelled to conform? The mere thought is a hopeless one. But at least a due regard for propriety of utterance can at least be attained individually and if medical writers could be made to understand that not only the thought but its expression, not only the thing said but the manner of saying it is of immense value in the propagation of ideas, more care would be exercised in the use of English speech among us.

ASPIRIN-BAYER

The patent rights on Aspirin which have for seventeen years protected the Bayer Company in the monopoly of that article, came to an end this month. This has been an exceedingly profitable monopoly and the Bayer Company, having exploited the American public through the profession of medicine, show a determination to retain their profitable hold. Already their advertisements, warning all and sundry against being imposed upon by inferior imitations, flood the newspapers and magazines, making a direct appeal to the public.

Aspirin is simply Acetylsalicylic Acid and, now that the patent protection is removed, can be manufactured by any of our manufacturing chemists as well as by the German firm. The Council on Pharmacy and Chemistry has removed "Aspirin-Bayer" from its list of approved remedies, and substituted for it the correct chemical name "Acetylsalicylic Acid."

Some years ago the *Journal of the A. M. A.* obtained through the American consuls in various European countries the local quotations on this drug. At that time American druggists were paying forty-three cents an ounce for Aspirin, to which of course other profits and charges were added before the drug reached the patient. The result of the inquiry proved that we were paying ten times as much as could be obtained for the drug in Europe. In Austria-Hungary, Denmark, France, Germany, Holland, Norway and Sweden, Aspirin was selling at four cents an ounce while we were paying forty-three cents for it.

It is sincerely to be hoped that physicians will take this matter into consideration and for the future prescribe the drug under its scientific name and put an end to the extortion of the Bayer Company.

WAR CASUALTIES

It has always seemed a bit strange that the wounded should figure as important casualties in the reports of war operations, since this item includes many who are only temporarily disabled from active service, and a large proportion of them return to duty within a short time, in many cases a very short time, and again figure among the casualties in subsequent reports. But how great a fallacy lay in these statistics we have not entirely appreciated. Recently the official figures have been published in regard to the treatment of the sick and wounded in the military hospitals of the entire home zone throughout Germany. They show that 90.2 per cent. of the men became fit for duty again; 1.4 per cent. died; 8.4 per cent. were left unfit for military service or were dismissed from the ranks. In consequence of the hygienic measures enforced, especially the protecting vaccinations, the number of cases of epidemic diseases in the armies has declined almost to the vanishing point. These have always been scattered cases and the military measures have never been disturbed by epidemics.

Secretary's Page

Wm. G. Ricker, M.D., St. Johnsbury, Secretary.

During the past month two communications have been received by the Secretary which are of interest to the members of the Medical Society at large. The first communication is from the American Medical Association through the Council on Health and Public Instruction. They are undertaking a careful study of the medical aid under the various Workmen's Compensation Acts now in force in the different states.

Aside from the certain questions which are to be answered by the State and County officials, there are the following to be answered only by a collection of opinions from the individual members. The questions are as follows:

1. Has a standard fee schedule been adopted and been enforced by any administrative authority, or by insurance companies?

2. Does the employer, insurance company or the insured employee select the physician according to the law?

3. Has any modification from the written law in this matter of Question 2 been admitted in practice?

4. What is the general feeling of the medical profession in regard to the medical situation in your State? (Please answer as fully as you can, indicating, if possible, the various prevailing opinions. This answer will be of greatest value in the study.)

5. Is there any movement on foot, among physicians, or any other groups, to introduce any changes in the provisions concerning the medical benefit?

Will each member of the Society who has worked under the present Compensation Act, please review these questions and supply the County Secretary with the answers at an early date.

The second communication is from the American Society for the Control of Cancer, which follows verbatim:

"At the last meeting of our National Council, which comprises the professional members of the Board of Directors of this Society, the chief subject of discussion was the ways and means of promoting the familiarity of the physician, both student and practitioner, with the modern knowledge of cancer. It was the unanimous opinion of the Council that the professional organizations, particularly the state medical societies, should take the lead in this phase of the campaign against malignant disease, and the chairman was directed to transmit to the secretary of each state association the following suggestions for definite measures:

"1. The American Society for the Control of Cancer renews its recommendation that your State Medical Association appoint a standing committee on cancer, if such action has not already been taken.

"2. In order to obtain the best results we believe that such committee should be continued in office for a term of at least three to five years. The conspicuous usefulness of the Cancer commission of the Pennsylvania State Medical Society has doubtless been in large part due to the fact that there have been few or no changes in its membership and no change in its chairmanship since its original appointment in 1909.

"3. The chief function of such committees being the cancer education of

the physician, we suggest that they follow the example of the Pennsylvania Committee in constantly stimulating up-to-date consideration of the cancer problem within professional circles. The cancer committee should therefore seek to promote addresses and symposia at state, district, and county society meetings, and should arrange for publication of the best obtainable papers in the state journals and the distribution of reprints and other approved literature among practitioners, including especially those who are not members of county societies.

"4. The Council directs me in particular to bring to your attention the report of our Committee on 'Free Tumor Diagnosis as a Function of State Public Health Laboratories.' A copy of this report is being sent to you under other cover and your attention is respectfully directed to the recommendations of the committee on page ten. This report has been endorsed by the National Council with an earnest recommendation that state medical societies take any action which seems to them appropriate in obtaining the extension of public facilities for tumor diagnosis within their jurisdiction, both as a means of assisting the physician to a prompt and certain determination of doubtful cases, and at the same time of giving the patient the benefit of earlier and more promising treatment.

"5. It is believed that the organized medical profession, through the agency of the state and county societies and special cancer committees, should also seek to promote the special instruction of nurses, social workers, and others coming in direct contact with patients, especially women, the object being that in no case should the nurse attempt to make a diagnosis but that in all cases of suspicious symptoms she should be prepared to advise immediate professional consultation and follow up the matter with force and discretion until such result is obtained.

"In these and other respects in which the state societies should naturally take the lead, the American Society for the Control of Cancer offers all possible co-operation as a central bureau of information and advice. Special literature, standard lecture outlines, lantern slides, and exhibit charts can be furnished. A constantly expanding list of qualified lecturers in all parts of the country enables us to suggest speakers whenever and wherever desired. Reports of the work of existing cancer committees such as those in Pennsylvania, Texas, North Carolina, and elsewhere, are available as the basis of concrete suggestions.

"For the benefit of the American campaign as a whole you are particularly requested to inform us what action has been or will be taken by your State Association with regard to these suggestions. In particular we should like to have the names and addresses of the chairman and members of your cancer committee in order that we may communicate with them from time to time and offer our further co-operation in matters of detail."

May I suggest that this matter be discussed at your next County Meeting as it will doubtless come before the House of Delegates at the State Meeting next October.

SHALL YOUR JOURNAL PROSPER?

The following excerpt from the *Kentucky Medical Journal* is very opportune and we commend it to the attention of every member of the Vermont State Medical Society who is at all interested in the maintenance of a Journal as the official organ of this society.

The Publishers' contract for Volume II is about 20% higher than last year and unless the greatest care is exercised the Editorial Staff may not be able to make the showing at the end of the year that it had hoped.

We are proud of our advertising pages, proud of the number and of the standing of those that have thought sufficiently well of VERMONT MEDICINE to give us their trial contracts for the first year, but we are particularly proud to announce to the members that these same high class advertisers, almost without exception, have renewed their contracts for Volume II.

"Chicago, Ill., January 5, 1917.—*Kentucky Medical Journal*, Bowling Green, Kentucky.—Gentlemen:—It has been a source of the greatest disappointment to us in looking over our records to find that we have received neither inquiry nor cases from your state through our efforts to present our work in your *Journal*, and we cannot help but feel that we are not being accorded the co-operation which our work and its results merit from your State Society.

"It occurred to us that a reading notice in your *Journal* might do some good in stimulating the interest of the medical profession of your State, and result in mutual good to patients coming here, as well as to ourselves.

"We are enclosing suggestions for copy, which we trust may find space in your next issue.

"Thanking you for any efforts you may make to co-operate with us,

"Sincerely,

"THE HYGEIA HOSPITAL."

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Progress in Medical Science

VENEREAL DISEASES

Dr. Prince A. Morrow, after a large experience in New York City and Baltimore, estimated that "the morbidity from gonorrhea would represent 60% of the adult male population and that of syphilis from 10 to 15%." These are large figures, almost incredible when we come to estimate what they would mean in our own little State of Vermont. For the sake of conservatism, let us say that his figures should be cut in halves and that only 30% of the adult male population should be regarded as gonorrhea cases. What would it mean in Vermont? Taking our population in round numbers as 355,000, approximately half of these, or 177,500, may be considered males, again, approximately, one-half of the male population may be considered as adults, or of an age capable of contracting gonorrhea. This brings our figures to 88,750. A simple calculation shows that 30% of this number would place the gonorrhea infected at 26,635. For the sake of argument, let us assume that one-fourth of these men are in a stage of the disease capable of infecting others, and we arrive at an estimate of over 6,600 active cases of gonorrhea among the male population of our own state. The same reasoning in regard to syphilis, taking Morrow's lowest estimate, 10%, would show 2,200 active cases of syphilis. Can this be so?

The laws requiring the reporting of venereal diseases to the Secretary of the State Board of Health have been in force since 1912. Since 1915, there have been required the name, address, age and sex of such persons and the physicians reporting have been given a fee of twenty-five cents for each report. The result is shown by the following tables:

Venereal Diseases Reported.
Gonorrhea

	1913	1914	1915	1916
Total	77	162	437	620
American	41	81	209	333
Foreign	21	25	103	156
Male	60	135	370	535
Female	17	27	67	85

Syphilis

	1913	1914	1915	1916
Total	77	207	234	221
American	43	105	94	119
Foreign	29	45	56	45
Male	57	138	166	157
Female	20	69	68	64

Referring again to the estimated number of cases above, it would appear that something under 10% of the cases are being reported.

The disease most nearly analogous to this so-called "black plague" is the "great white plague," tuberculosis. In 1914, there were 297 cases of tuberculosis of the lungs reported to the State Board of Health and, in 1915, 288 cases. The figures for 1916 are not yet available. In order to prevent the spread of tuberculosis, the state appropriates $2,000 annually for educational purposes; $10,000 annually for the care of indigent tuberculous cases, and there are many private donations available for the use of the citizens of the state. For the prevention of venereal disease, the state appropriates $1,000 annually, which heretofore has beeu available only to pay for reports by physicians, and a further allowance of approximately $1,200 a year for Wasserman reactions done at the laboratory. It is evident, then, that while venereal diseases are as great, or even a greater menace to the public at large than tuberculosis, public opinion has not yet arrived at the stage where it is willing to face the facts and pay for preventive measures.

It is encouraging to note, however, that a physician may now openly speak on the subject of venereal diseases before mixed audiences without offense. Church societies and women's clubs are becoming more and more interested in the subject and it is safe to predict that within a very short time, physicians will be forced to treat this matter more seriously than heretofore. In fact, much the same procedure will be used in combating venereal diseases as is now used against tuberculosis.

The Vermont State Board of Health recognizes this growing sentiment and, as a beginning toward greater things, has proposed to the Legislature now in session an amendment to the existing law whereby a part of the $1,000 appropriation will be available for a campaign of education. To be sure, this amount of

money will not go far but it will be of some use. The new law also provides that drug clerks who sell medicine for the treatment of gonorrhea or syphilis other than on a doctor's prescription shall be obliged to make a report of the patient thus found in the same manner as physicians treating cases. Every physician knows that this is a much needed amendment and he also must recognize the difficulty of enforcing such a law unless complete co-operation is secured with the entire profession throughout the state.

Even discounting the calculations above given by one-half, it is perfectly evident that only a comparatively small proportion of the cases now seen by physicians are reported to the State Board of Health. Vermont has, thus far, led all the other states in its legislation on this subject, and we should be able to keep our advanced position by our ability to enforce the good laws which we now have. It therefore becomes the duty of every physician to recognize the disastrous results of these two diseases (and what physician does not) and to co-operate in the effort which is now being made to educate the public and especially the young people as to the danger of loose habits and sexual delinquencies.

I know of no greater work than the conscientious effort to keep these diseases in check and I feel sure that it only requires a simple reminder now and then to gain the co-operation of every serious-minded physician.

CHAS. F. DALTON.

NOTES ON TUBERCULOSIS

Gittings, Fetterolf and Mitchel (Am. Jr. of Diseases of Children) point out that the lower borders of the lungs, in infants and young children, are found at a slightly higher level than in adults. They therefore urge that puncture for thoracentesis be never made in children lower than the sixth space in the mid-axillary line or the seventh or possibly the eighth space in the mid-scapular line (with arm beside chest). In this way danger of puncturing the diaphragm may be avoided.

H. M. Kinghorn reports an interesting series of cases of appendicitis arising in people already suffering from tuberculosis (Jr. A. M. A., Dec. 16, 1916). No deaths occurred during operation. Of three cases that died after the operation one was a severe fulminating case and died of septicemia, the other two died of extensive tubercular involvement of the appendix cecum and adjacent intestines. In 89% there was no bad effect either general or local following the operation. The results were almost exactly on the same average as in non-tuberculous people. Kinghorn prefers local anesthesia with novacaine and epinephrin in certain cases but considers nitrous oxid and oxygen as the best anesthetic for the general run of cases. Three of his cases were given chloroform and three ether. None of the cases showed any irritation of the lungs from the anesthetic. If ether is used the drop method should be followed. He believes "that these acute cases should be regarded as we regard apparently healthy patients, and that the lung condition should be excluded when we are making our decisions as to whether or not to operate." When appendicitis is mild or chronic and the patient in good condition the lung condition should not be considered against the danger from appendicitis but a suitable time should be chosen and the operation performed.

When mild or chronic attacks occur in patients in poor or feeble condition an operation should be performed if the attacks of appendicitis endanger the patient's health or prevent him from taking or assimilating sufficient nourishment. Such cases stand the operation well and are at times remarkably improved afterwards.

In examining a large number of school children Lankester finds about 10% showing enlarged cervical glands of a size easily recognized by palpation. Most of these cases gave a history of recent exposure to tubercular infection. After the age of 12 the percentage of enlarged glands rapidly declines, showing that the trouble is generally temporary.—A. Lankester, Indian. Jr. of Med. Research, Oct., 1916.

It would seem that the tendency for enlarged glands to disappear about the age of 12 should be of considerable importance in deciding upon the advisability of surgical intervention in such cases at or about that age.

Ustvedt presents rather striking evidence of the danger which menaces infants born in families where there is tuberculosis. His statistics show that 19.2 per cent of children thus born died during the first year of life while

among the general population of the city only 10.8 per cent died during the same time. It is also of interest to note that 10.5 per cent of breast-fed infants died in the first year while 28 per cent of bottle-fed babies died in the same period. Of all that died within five years of birth 37.1 per cent died of actual tuberculosis. These figures point dramatically to the importance of removing infants from infected surroundings, especially from infected mothers.—Norsk Magazin for Laegevidenskaben, Christiana, Oct., 1916; Abst., Jr. A. M. A., Nov. 11, 1916.

In connection with Wingrave's article on "Atrophic Rhinitis and Tuberculosis" briefly reviewed in the November number of VERMONT MEDICINE it is interesting to note the following quotation from an article by G. M. Coates, "Clinical Experience with the Use of Vaccines in Diseases of the Ear, Nose and Throat." (Jr. A. M. A., Jan. 20, 1917): "Dan McKenzie, of London, a keen and usually capable observer, has just issued a claim and offered proof, that ozena is a manifestation of tubercular infection, not nasal, and believes the acid-fast bacilli which he invariably finds underlying the crusts to be attenuated forms of tubercle bacilli. * * * * He claims very great improvement, if not cure, following tuberculin treatment, the usual small dose, without reaction, being used. While he noted marked improvement in a large percentage of cases, he found a tendency to relapse following cessation of treatment. There was also a concomitant gain in strength and health."

H. S. G.

SPLIT PROTEINS IN HEALTH AND DISEASE

(*Continued from page* 21, *January,* 1917)

Much discussion has taken place as to what the daily normal protein intake should be. Voit claims that as much as 100 and 120 grams per day should be consumed. On the other hand, Chittenden claims, and seems to have demonstrated, that an excessive protein diet is more or less injurious and advocates what may be considered an ordinary minimum daily ration of from 40 to 60 grams. It would seem as though it was not so much the quantity but *particular* kinds of proteins that are required. For instance, it might seem that the Russians, big of stature, maintain this stature somewhat in part, as the result of the free use of sunflower seeds in their dietary. Sunflower seeds are particularly rich in lysin, which vigorously promotes growth as previously mentioned,—Kentucky's chick feeding experiments.* On the other hand, it would also seem that the Japanese and Chinese dwarf themselves by the almost universal use of a lean protein rice dietary.

It has long been known that protein foods are first acted upon by the gastric juice, with free hydrochloric acid as the controlling factor of digestive activity. The partially disorganized protein molecule leaving the stomach largely in the form of proteoses, is further broken up into peptones by the trypsin of the pancreatic juice. Proteins were formerly supposed to be absorbed at this stage of disintegration but are now known to be absorbed only as amino acids.

"It was Conheim's attempt (1906) to isolate a hypothetical protein from the intestinal wall which led to his discovery of the formation of the enzyme erepsin.—As a result of the discovery of erepsin, the purpose of the formation of amino acids first received its due recognition." It was at this time that he demonstrated that erepsin splits peptones into the fractionless molecules— amino acids. Not until some time later, however, was it demonstrated that proteins were absorbed from the intestinal tract only as amino acids.

Abderhalden (1913-14) first demonstrated the presence of amino acids in the blood. When using the enormous quantities of 50 liters he was unable to recover at one time more than 0.5 grams of any of the 10 amino acids isolated. He especially applied the term "building stone" to each of these amino acids, as he had demonstrated that cell growth and repair is dependent upon an individual cellular amino acid appropriation.

In an excessive protein dietary and in certain pathological conditions, there may be some of the surplus amino acids passed on from the small gut into the colon. A reconstruction by bacterial activity into toxic amines soon takes

*In last month's article, P. 21, "Maryland's Experimental Station, etc." should have read Kentucky's Experimental Station, etc.

place causing serious symptomatic disturbances. Indeed, it now appears that epilepsy, dementia precox, and similar mental conditions are frequently caused by the irritating effect of circulating amines. These poisons are first produced in the sluggish colon and later slowly absorbed into the blood stream to circulate as active irritating agents upon brain tissues especially.

Holmes, in an extended study of dementia precox says, "Thus we find in the cecal delay abundant time for the development of the toxic amine, histamine, from the amino acid histidine, as the result of the growth of the bacillus aminophilus intestinalis." He improved the condition of several precox cases by performing an appendicostomy with daily irrigations of the cecum. After this treatment his cases double in weight; develop a normal blood pressure from a previous reading of 80 mm. to 120 mm., and improve mentally.

Chipman, in a recent article on Dermatologic Dietetics, pays especial attention to the role of proteins in the causation of disease and remarks that, "The importance of the group of amino acids has only recently been recognized." He regards such skin diseases as urticaria, psoriasis, certain forms of eczema, together with the toxic erythemas as different cutaneous reaction manifestations toward protein decomposition products. He claims that it matters not whether protein is injected as the result of bites, such as from fleas, bees, or wasps; or due to the presence of the proteins composing infecting organisms; or a break in the systemic "nitrogenous equilibrium."

In so far as the therapeutic use of parenterally introduced proteins is concerned, it may be said that it has been pretty definitely demonstrated by various experimenters, that it is not the specific organism or its toxins which sensitizes, but that sensitization is due to the protein composing the organism which calls forth the reaction. Joblin and Peterson have been able to obtain the same results in the treatment of typhoid by the injection of colon vaccines as that obtained with typhoid vaccines. Ludké and others have even gone a step farther and obtained similar results by the use of non-bacterial split products as deutero-albumose, lact-albumen and similarly split proteins. Miller and Lusk have proved the utility of such findings in the Cook County Hospital, where they report marked improvement following the administration of plain boiled milk in the treatment of acute arthritis. That boiled milk can be used as a therapeutic agent in arthritis, has also recently been confirmed by one of our own colleagues, Dr. H. R. Ryan of Rutland. Not long ago, he reported favorable results following the administration of boiled milk given subcutaneously to two cases of gonorrheal arthritis. Culver, in the current issue of the J. A. M. A., reports results obtained in gonorrheal infections by the intravenous injection of killed gonococci, meningococci and colon bacilli; and remarks, "As far as therapeutic results are concerned, there is no noticeable difference between the three bacterial suspensions once the proper dosage is established." He shows temperature and blood-count charts wherein the three vaccine reactions run almost together. He further states in the same article that, "The reactions produced in *non*-gonorrheal patients in every way resembled the actions in gonorrheal patients, there being no noticeable difference in the temperature and hyperleukocytosis produced." This observation further proves the non-specificity of killed bacterial injection. It should be kept in mind that such favorable non-specific reactions have no bearing in a negative way upon the practical use of vaccines used for prophylactic purposes. Vaccines should continue to be used as a protective measure, as non-specific proteins are used only for the treatment of disease and not for protection against disease.

The possibility of anaphylaxis or acute hypersensitization of a grave nature, has ever been a stumbling stone in the way of the general use of vaccine therapy. Early investigators were obsessed with the idea that specific reactions could be obtained only through the use of the killed and macerated organisms causing the disease. They believe that there was a something in the way of a secretion or ferment therein, that produced the desired result in favorable reactions, or that there was an excess, when confronted with anaphylactic shock, while others reacting unfavorably were considered to be peculiarly susceptible because of personal variations from the normal — individual idiosyncrasy.

Wells and Osborne make the following very significant statement in this connection, "Re-

cent investigations have clearly shown that the specificity of the anaphylaxis reaction depends upon the chemical construction of the protein, and not upon its biologic origin.''

We are then forced to the conclusion that beneficial or harmful effects within the body from protein decomposition products (whether formed within the body by bacterial activity, or a break in ''nitrogenous equilibrium,'' or from those parenterally introduced) produce their results as a result of a biochemical process dependent upon the chemical construction of the protein only. And it matters not what may be the biologic origin of the protein.

(*To be concluded next issue.*)

DR. WALTER J. DODD

Dr. Walter J. Dodd, '08, who rose from a poor immigrant lad to be one of the foremost X-ray experts in America, died December 19, at the age of 47 at his home, 374 Marlboro Street, Boston, a martyr to the profession in which he was a pioneer. For about 24 years Dr. Dodd was on the staff of the Massachusetts General Hospital, first as an apothecary and later as Roentgen X-ray expert. He fell a victim to a curious ailment caused by the mysterious agency with which he worked.

Doctor Dodd was born in London in 1869 and came to this country as a boy. Like most Englishmen, he felt the irresistible calling to ships and the sea, but was prevailed upon to work in the chemical laboratory of Harvard. In 1892 Dr. Dodd went to the Massachusetts General Hospital as assistant apothecary and in 1896 as apothecary. His knowledge of chemistry was regarded as profound.

In 1900 and 1901 he studied at the Harvard Medical School, but he later went to the University of Vermont, where he received his degree of M. D. in 1908.

It was in 1896 that Roentgen published his discovery of the penetrating ''X'' ray, and Doctor Dodd, then at the Massachusetts General Hospital, was placed in charge of the X-ray machine. One year later he received a bad burn from the rays, which gradually became worse, until he was operated upon in 1898. From then on his hands constantly suffered from the effects of the ray. Almost 50 operations were required, the last one only two weeks previous to his death.

From the Council of Pharmacy and Chemistry

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Merck and Company:
- BARIUM SULPHATE, MERCK, for X-Ray Diagnosis
- THEOBROMINE, MERCK

Powers-Weightman-Rosengarten Co.:
- BARIUM SULPHATE, P. W. R., for X-Ray Diagnosis

Western Chemical Company:
- TABELLAE DULCES ARISTOCHIN (Western) 1 gr.
- TABELLAE DULCES HEROIN (Western) 1-100 gr.
- TABELLAE DULCES NOVASPIRIN (Western) ¼ gr.
- TABELLAE DULCES TANNALBIN (Western) 1 gr.
- TABELLAE DULCES TERPIN HYDRATE with HEROIN (Western) 1-100 gr.

NEW AND NON-OFFICIAL REMEDIES

Formin Tablets, 5 grains.—Each tablet contains 5 grains of formin (see New and Non-Official Remedies, 1916, p. 138). Merck & Co., New York.

Formin Tablets, 7½ grains.—Each tablet contains 7½ grains of formin (see New and Non-official Remedies, 1916, p. 138). Merck & Co., New York.

Veronal Tablets, 5 grains.—Each tablet contains 5 grains of veronal (see New and Non-official Remedies, 1916, p. 92). Merck & Co., New York (*Jour. A. M. A.*, Jan. 6, 1917, p. 35).

Urease.—An enzyme found in certain beans, fungi and micro-organisms which, in the presence of water, converts urea into ammonium carbonate. It is used in the determination of urea in the urine, blood and other body fluids, either by determining the increase in alkalinity of the fluid to which it is added, or

else the ammonia produced by it in the fluid is removed and estimated.

Urease-Squibb.—A standardized preparation of urease obtained from the jack bean. It is supplied in the form of powder and tablets contained 0.1 gm. E. R. Squibb & Sons, New York.

Neutral Solution of Chlorinated Soda.—Solution Chlorinated Soda, Dakin.—Solution Chlorinated Soda, Carrel-Dakin.—A chlorinated soda solution, containing 0.43 to 0.48 per cent. of available chlorine, free from caustic alkali. It is prepared by treating a suspension of chlorinated lime in water with definite amounts of sodium carbonate and sodium bicarbonate and adjusting the separated clear liquid to the required content of available chlorine. The solution is not reddened by phenolphthalein. It must be protected from light. The solution has been used for the irrigation of wounds, especially infected war wounds.

Theobromine-Merck.—A brand complying with the standards for theobromine-N. N. R. Merck & Co., New York.

Barium Sulphate, P. W. R., for X-Ray Diagnosis.—A brand complying with the standards for barium sulphate for Roentgen-ray work—N. N. R. Powers-Weightman-Rosengarten Co., Philadelphia.

Barium Sulphate, P. W. R., for X-Ray Diagnosis.—A brand complying with the standards for barium sulphate for Roentgen-ray work—N. N. R. Merck & Co., New York (*Jour. A. M. A.*, Jan. 13, 1917, p. 121).

Acetylsalicylic Acid.—Acidum acetylsalicylicum. Aspirin. The acetyl derivative of salicylic acid. Dosage: 0.3 to 1.0 gm., repeated once in 3 hours until symptoms of salicylism are noted. It may be dispensed as powders (in wax paper), wafers or capsules.

Iocamfen.—A liquid obtained by the interaction of iodin 10 parts, phenol 20 parts, and camphor 70 parts, containing about 7.25 per cent. free iodin. Iocamfen is said to have the antiseptic and germicidal properties of iodin and also the analgesic, stimulating and antiphlogistic properties of camphor and phenol. It is used in dressing wounds, etc. Iocamfen is also supplied as Iocamfen Ampules, containing 20 minims iocamfen. Schering & Glatz, New York (*Jour. A. M. A.*, Jan. 20, 1917, p. 199).

PROPAGANDA FOR REFORM

The J. B. L. Cascade Treatment.—The "treatment" is exploited by Charles A. Tyrrell, New York City. It consists in the self-administration of rectal enemas by means of a device, the J. B. L. ("Joy-Beauty-Life") Cascade. The "complete treatment" includes a stick of Tyrrell's "famous Rectal Soap" and a box of the "Celebrated J. B. L. Antiseptic Tonic." The "tonic" was analyzed in the A. M. A. Chemical Laboratory and found to be a mixture of sodium chloride and impure borax, colored and perfumed. The laboratory concluded that a preparation having all the "antiseptic" and "tonic" properties of J. B. L. Antiseptic Tonic can be made by mixing 2.8 ounces common salt with 1.3 ounce powdered borax (*Jour. A. M. A.*, Jan. 6, 1917, p. 50).

Toxicity of Salvarsan and Neosalvarsan.—Claude L. Shields, M.D., Salt Lake City, reports that out of the last twenty-three injections of neosalvarsan four cases exhibited severe poisoning and one resulted in death. He reports the experience of other physicians of severe toxic symptoms from the use of recent shipments of salvarsan and neosalvarsan (*Jour. A. M. A.*, Jan. 6, 1917, p. 53).

Q-Ban Hair Color Restorer.—Untoward effects from the use of Q-Ban Hair Color Restorer are reported. The Connecticut Agricultural Experiment Station reported the "restorer" to be a perfumed, alcohol-glycerin solution of 1.68 gm. per 100 c. c. of lead acetate, containing 3.08 gm. of free sulphur in suspension. The Connecticut report states: It is simply one of the many familiar lead acetate-sulphur preparations, and its use is by no means free from danger (*Jour. A. M. A.*, Jan. 6, 1917, p. 54).

The Search for the Ideal Antiseptic.—R. A. Lambert has followed the effect of the same chemical agent on bacteria and tissue cells growing together *in vitro*. He finds that the growth of tissue cells is more easily affected by potassium cyanide, phenol, tricresol, hydrogen peroxide and alcohol than was the growth of bacteria. Iodin stands out as the one chemical tested to which tissue cells were found more resistant than were staphylococci. A good growth of cells was seen after exposure to a 1 in 2000 solution of iodin for an

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hour—a strength sufficient to sterilize the tissue completely in most instances. Lambert points out that the power of iodin to dissolve fibrin may be an objection to its use as an antiseptic wound dressing (*Jour. A. M. A.*, Jan. 6, 1917, p. 40).

Iron Citrate, Green.—H. K. Mulford Company and E. R. Squibb & Sons submitted to the Council on Pharmacy and Chemistry ampules containing solutions of iron citrate, green. It thus became necessary for the Council to consider the eligibility of iron citrate, green, itself for admission to New and Non-official Remedies. As the rules of the Council provide that non-essential modifications of official or non-proprietary preparations will not be recognized, the above named firms were asked to state what advantage, if any, the so-called iron citrate, green, has over the official iron and ammonium citrate. Inasmuch as no evidence was presented to show that iron citrate, green, has any advantage over the well-known iron and ammonium citrate, the Council held that iron citrate, green, and with it the dosage forms, were ineligible to New and Non-official Remedies. Advised of this decision, the Mulford Company replied that in the present case it felt bound to supply the existing demand. Squibb & Sons replied that, to give the Council its support in this matter, the sale of iron citrate, green, and ampules thereof would be discontinued (*Jour. A. M. A.*, Jan. 13, 1917, p. 135).

More Misbranded Nostrums.—Chiefly because of unwarranted therapeutic claims, the following "patent medicines" were found misbranded under the federal Food and Drugs Act: Goff's Cough Syrup, a syrup containing some vegetable extractive and traces of iron, iodids, antimony and alkaloids.—Goff's Herb Bitters, a water-alcohol solution of aloes, sugar and alkaline carbonate flavored with peppermint.—Dander-Off, an alkaline solution of borax and white arsenic colored with coal-tar dye.—Tu-Ber-Ku, a tuberculosis cure containing 20 per cent. alcohol.—Electrozone, claimed to contain or to liberate ozone.—Orange Blossom Female Suppositories, containing boric acid, aluminum salt, sulphate, potassium salt, sodium salt, starch and petrolatum.—Dr. Simpson's Vegetable Compound, essentially an alcohol-water solution of potassium iodid with a small amount of vegetable extractive in which podophyllum, licorice and gentian were indicated.—Weller's Stone Root and Gin, containing 37.5 per cent. alcohol (*Jour. A. M. A.*, Jan. 13, 1917, p. 135).

Acetylsalicylic Acid, Not Aspirin.—While Aspirin-Bayer has been omitted from New and Non-official Remedies, the product is retained under its scientific name, acetylsalicylic acid, and standards are provided to ensure the reliability of the market product. The Aspirin patent expires in February, 1917, and after this time other manufacturers may make and sell the product. One firm's brand, that of the Powers-Weightman-Rosengarten Co., has been accepted for New and Non-Official Remedies, 1917. Hereafter physicians, when prescribing the compound should use the scientific name "acetylsalicylic acid" (*Jour. A. M. A.*, Jan. 20, 1917, p. 201).

Aspirin-Bayer Omitted from N. N. R.—Aspirin-Bayer is advertised to the public, indirectly by means of "vest-pocket" boxes bearing the name "Aspirin" permanently affixed, and directly by means of extensive newspaper advertising. Inasmuch as this advertising propaganda is an infringement of the rules of the Council and is against the interests of public health, the Council voted to omit Aspirin-Bayer from New and Non-official Remedies (*Jour. A. M. A.*, Jan. 20, 1917, p. 213).

More Misbranded Nostrums.—The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act, chiefly because unwarranted curative claims were made for them: Dr. Thatcher's Liver and Blood Syrup, claimed to cure all liver complaints and many other ailments.—Black's Pulmonic Syrup, a water-alcohol solution of ichthyol, glycerin and sugar.—Walker's Pain Destroyer, an alcoholic solution of oil of mustard, chloroform, opium and collodion.—Musterole, a mixture of lard or some similar material with oil of mustard, menthol and camphor.—Snyder's Bitters, claimed to eradicate scrofulous humors, syphilitic affections, cancerous humors and many other ailments.—"5 Drops," a mixture of eucalyptol (or a eucalyptol-containing oil), camphor, safrol, terpineol and eugenol (or an oil containing those ingredients, such as camphor oil).—Dr. Stuart's Specific Drops, a mixture

of camphor, alcohol, mercuric iodid and turpentine (*Jour. A. M. A.*, Jan. 20, 1917, p. 214-215).

Pil. Cascara Compound-Robins (A. H. Robins Company, Richmond, Va.).—The Council on Pharmacy and Chemistry reports that Pil. Cascara Compound-Robins is an example of the innumerable mixtures of well-known drugs having nothing in the way of originality or of special therapeutic value to recommend them. The claim that the pills contain no belladonna when they admittedly contain hyoscyamus is, in view of the similar action of these two drugs, a manifestation of ignorance on the part of the manufacturer or an effort to impose on the medical profession. The promotion of this mixture as "an ideal aid to any remedial agent when a mild, medium or strong alimentary stimulant is needed" is a slur on the intelligence of physicians. The Council finds Pil. Cascara Compound Robins not acceptable for New and Non-official Remedies (*Jour. A. M. A.*, Jan. 27, 1917, p. 303).

Casta-Flora.—The Council on Pharmacy and Chemistry reports that Casta-Flora, put out by the Wm. S. Merrell Chemical Co., is one of those complex preparations which are offered to the medical profession with plausible arguments in support of the claims made. The Council finds the claims made for this mixture of drugs—which is said to contain or represent chestnut leaves, passion flower, gelsemium, elecampane, "iodized lime," menthol and yerba santa—and for the individual ingredients thereof, extravagant and misleading. Even if the ingredients, or certain of them, were useful in the treatment of those conditions for which Casta-Flora is recommended, no one could possibly foresee the effects in any given case from this jumble of drugs. The Council holds that the prescribing of such mixtures, the action of which cannot be foreseen, is plain charlatanism and declares Casta-Flora inadmissible to New and Non-official Remedies (*Jour. A. M. A.*, Jan. 27, p. 303).

McINTIRE PRIZE

Last year Dr. Charles McIntire resigned the secretaryship of the American Academy of Medicine after twenty-five years of faithful service. In appreciative commemoration the American Academy of Medicine decided to raise a fund, the income of which should be expended in accordance with Dr. McIntire's suggestions. As a consequence the Academy now announces two prize offers, the prizes to be awarded at the annual meetings for 1918 and 1921, respectively.

The subject for 1918 is "The Principles Governing the Physician's Compensation in the Various Forms of Social Insurance." The members of the Committee to decide the relative value of the essays awarding this prize are—Dr. John L. Heffron, Dean of the College of Medicine, Syracuse University; Dr. Reuben Peterson, Professor of Obstetrics and Diseases of Women, University of Michigan, and Dr. John Staige Davis, Professor of Pediatrics and Practice of Medicine, University of Virginia.

The subject for 1921 is "What Effect Has Child Labor on the Growth of the Body?" The members of the Committee to award this prize are—Dr. Thomas S. Arbuthnot, Dean of the Medical School of the University of Pittsburgh; Dr. Winfield Scott Hall, Professor of Physiology, Northwestern University, and Dr. James C. Wilson, Emeritus Professor, Practice of Medicine and of Clinical Medicine, Jefferson Medical College.

The conditions of the contests are:

(1) The essays are to be typewritten and in English, and the contests are to be open to everyone.

(2) Essays must contain not less than 5,000 or more than 20,000 words, exclusive of tables. They must be original and not previously published.

(3) Essays must not be signed with the true name of the writer, but are to be identified by a nom de plume or distinctive device. All essays are to reach the Secretary of the Academy on or before January 1st of the years for which the prizes are offered and are to be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and to contain his true name inside.

(4) Each competitor must furnish four copies of his competitive essay.

(5) The envelope containing the name of the author of the winning essay will be opened by Dr. McIntire, or in his absence by the presiding officer at the annual meeting and the name of the successful contestant announced by him.

(6) The prize in 1918 for the best essay submitted according to these conditions will be $100.00; that of 1921 will be $250.00.

(7) In case there are several essays of especial merit, after awarding the prize to the best, special mention of the others will be made and both the prize essay and those receiving special mention are to become at once the property of the Academy, probably to be published in the *Journal of Sociologic Medicine.* Essays not receiving a prize or special mention will be returned to the authors on application.

(8) The American Academy of Medicine reserves the right to decline to give the prize if none of the essays are of sufficient value.

The present officers of the American Academy of Medicine are: George A. Hare, M.D., Fresno, Calif., President; J. E. Tuckerman, M.D., Cleveland, President-Elect; Charles McIntire, M.D., Easton, Pa., Treasurer, and Thomas Wray Grayson, M.D., 1101 Westinghouse Building, Pittsburgh, Pa., Secretary.—*Journal of Sociologic Medicine,* December, 1916.

SOUTHWESTERN MEDICINE

We welcome *Southwestern Medicine* to our exchange list.

This new journal combines the *New Mexico Medical Journal,* the *Arizona Medical Journal* and the *Bulletin of the El Paso County, Texas, Medical Society.*

The first number is attractive in material and make-up and its policy as outlined deserves the hearty support of all Southwestern medical men

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Dr. W. L. Paine, formerly of Royalton, died recently at Southwick, Mass.

Dr. Wm. G. Ricker, secretary of the Vermont State Medical Society, has returned from an extended trip through the Middle West where he attended clinics.

Dr. Henry D. Holton, for the past twenty years a member of the Vermont State Board of Health, its secretary twelve years, died at his home in Bratleboro, Monday, February 12th. He was in his seventy-ninth year. The cause of his death was malignant disease of the pancreas. He had been confined to his house since Christmas. The funeral took place from the Baptist church in Brattleboro Wednesday afternoon and was largely attended by his townspeople and by medical men from all parts of the state.

Excerpts from Other Journals

From the December volume of Interantio Clinics, published by J. B. Lippincott Co., the following abstracts were made.

ENCAPSULATED EMPYEMA

A Plea for Exploratory Thoracotomy

By ASTLEY P. C. ASHHURST, M.D.,

Philadelphia, Pa.

Typical cases, well illustrated, are presented in the International Clinics for December exhibiting the difficulties of recognizing and reaching pus within the pleura even when exploratory puncture is resorted to, while it is made plain how much can usually be obtained by surgical means. Refusal to operate when the needle fails to reveal pus at the time set for operation even though pus was previously found is bad surgery. The surgical technique is carefully described. Local anesthesia is preferred, the intercostal nerves above and below the rib to be resected being blocked with an injection of the anesthetic fluid, novocain or eucain being preferred. For abscess of the lung thoracotomy is preferred to the production of a therapeutic pneumothorax by Forlanini's method as the former gives better opportunity for locating and draining the abscess.

CHRONIC DUODENAL INDIGESTION IN CHILDREN

By JOHN FOOTE, M.D.,

Washington, D. C.

This condition is said to occur most frequently in children after the first year, and especially in those who have suffered from dietetic errors, usually with antecedent contagious diseases, or from prolonged intestinal infections, and this is fully covered by Foote in the December International Clinics. This form of indigestion seems to be accompanied by deficiency or pancreatic ferments, especially lipase. A mild duodenitis, which either passes up the pancreatic duct, or diminished hormone formation, seems responsible for the condition.

Diminished bile production may also be a factor. Anemia, loss of weight and mental underdevelopment occur. Large pendulous abdomen is common. Bottle feeding has been employed. Fever may be encountered, vomiting almost never. The number of daily stools varies from 3 to 12. They are thin, contain some mucus and flakes of whitish material and have a very foul odor. They give an acid reaction and miscroscopically contain not only large quantities of fat soaps, but also a considerable amount of neutral fat but rarely starch granules. It is to be differentiated from mesenteric tuberculosis and acute duodenal indigestion. The treatment consists in reducing the food elements which have proven indigestible, namely, the fat, and stimulating enzyme production by the administration of hydrochloric acid and pancreatic ferments.

A CLINICAL CONSIDERATION OF MIGRAINE

By JOHN A. LITCHY, M.PH., M.D.,

Pittsburgh, Pa.

Migraine is considered by the author as the most frequent headache, occurring in 700 of his 15,000 patients sick from all causes. He believes that the so-called acidosis in children may often be a forerunner of a well established sick-headache habit. The interesting relations between migraine and epilepsy deserve further study. Among the author's 15,000 patients epilepsy occurred in 7, and both migraine and epilepsy in 70. Auerbach's theory which attributes migraine to an actual disproportion between skull-capacity and volume of brain, needs further proof. In the International Clinics for December, Dr. Litchy shows that the diagnosis is easy when there are headaches which are unilateral, periodical and hereditary, but when only one or two of these symptoms are present, or when there is only a periodicity of some of the minor symptoms or possibly of the aurae, the diagnosis may be difficult. Migraine is frequently mistaken for pelvic disease, for acidosis or cyclical vomiting in children, and organic disease, when some of the aurae are present. The psychasthenic and the gastric symptoms frequently lead to confusion in diagnosis. While the underlying

causes of migraine are vague and furnish little light as to treatment, much can be done to ameliorate the symptoms by proper handling of the exciting causes that aggravate the patient's general condition and precipitate the attacks. Most thorough investigation and careful individualization are indicated. Systematic administration of the bromide salts and avoidance of undue fatigue are especially recommended.

ACUTE SYPHILITIC MENINGITIS

By Boris Bronstein, M.D., Odessa, Russia.

Bronstein considers that the term acute syphilitic meningitis should be more particularly applied to acute meningeal phenomena of the secondary period, sometimes preceding, but more frequently accompanying the cutaneous manifestations of this period. The pathology is essentially a meningovas-cularitis with hypersecretion of the cerebrospinal fluid. Prodromal symptoms, such as headache and insomnia, may or may not occur. Acute syphilitic meningitis at its height, as Bronstein says in the December International Clinics, presents the clinical picture of the tubercular form, differing from the latter by the indistinctness of the symptoms, such as contractures and stiffness of the neck, and by the absence of any marked disturbance of the pulse and respiration. In the luetic form fever is apt to be absent and there may be remissions and relapses. Lumbar puncture reveals a considerable hypertension of the cerebrospinal fluid, albumin in quantity, and a marked lymphocytosis with plasmozellen. The cerebrospinal fluid may yield a positive Wasserman even when the blood serum is negative. Other manifestations of syphilis are to be looked for. The immediate prognosis is rarely fatal but the ultimate prognosis should be reserved. Prophylactic treatment is recommended whenever the cerebrospinal fluid shows a lymphocytosis, even when all meningeal symptoms are wanting. The treatment consists in frequently repeated removal of the cerebrospinal fluid in considerable amount, combined with intravenous injection of cyanide of mercury and intraspinal injections of colloidal mercury. Neosalvarsan or salvarsan have a much more rapid action, but must be prudently handled in neurologic lesions of syphilis.

WHAT THE VERMONT ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS IS DOING.

The state wide campaign for the sale of Red Cross Christmas Seals has netted the Vermont Association for the Prevention of Tuberculosis a little over $4,000.00. On Thursday Feb. 8th, a meeting of the directors of the Association was held in the office of the State Board of Health to determine upon what way the money should be expended during the year.

The first question was whether the Association should use any of its funds for relief. After considerable discussion it was agreed that although primary aim of the Association was not the relief of needy patients, that a maximum of $1,000.00 could be used for this purpose in case where aid for a short period would be of permanent benefit. This was called an emergency relief fund, Dr. Edw. J. Rogers, Dr. Chas. F. Dalton and Mr. H. W. Slocum, secretary of the Association, were appointed a special committee to decide on all appeals for help from this fund.

In order that the Association may be of benefit to every physician in the state it was decided to send each doctor a circular of information about the tuberculosis hospitals accepting Vermont patients, the Vermont Sanatorium at Pittsford, the Hampshire County Hospital at Haydenville, Mass., and the Pembroke Sanatorium at Pembroke, N. H. In this circular will also be included a copy of the Act of the Legislature appropriating $10,000 annually for the care of indigent cases in tuberculosis hospitals. It was also voted to offer to supply doctors with sputum

cups, for poor patients without charge and for others at cost.

The present appropriation for indigent cases has been entirely used and there are a number of needy cases waiting for an opportunity to enter hospitals as soon as new funds are available. It was felt that during the next two years the applications for aid from this appropriation would increase and to meet this demand the present appropriation should be doubled. An act to PROVIDE for the establishment of county hospitals for tuberculosis which has been introduced by Mr. Howland of Barre was discussed and the secretary instructed to aid in every way to secure a favorable vote on the same. It is hoped under the act to build at least one hospital in the state where all classes of patients may be cared for.

The secretary of the association then presented a plan for encouraging attention to health and hygiene in the public schools. The plan provides for the formation of a number of local health leagues which will be kept active by means of a monthly paper which will serve as a medium for exchanging experiences among the different leagues. The secretary also presented a plan for establishing a rural visiting nurse in a district of not more than ten thousand people. The nurse is to work in cooperation with the doctors and to be under the supervision of an association formed from residents of the districts. The plan was offered as an experiment in the neglected field of rural health work. If it is found satisfactory other districts will be formed another year.

The office of the Vermont Association for the Prevention of Tuberculosis is at 184 Church street, Burlington. All correspondence should be addressed to Harold Slocum, the secretary.

From the County Societies

BENNINGTON COUNTY MEDICAL SOCIETY

At the last meeting of the Bennington County Medical Society, Dr. E. B. Daley, Bennington, Vt., was elected to membership, and Dr. F. E. Dean, Jr., So. Shaftsbury, Vt., and Dr. James L. Lovejoy, Manchester Depot, Vt., made application for membership.

L. H. Ross, M.D.
Secretary.

BURLINGTON AND CHITTENDEN COUNTY CLINICAL SOCIETY

Dec. 21st, 1916—Monthly Meeting of the Burlington and Chittenden County Clinical Society.

Twenty-four members and six other doctors present.

Dr. F. H. Platt and Dr. Eugene St. Antoine were elected to membership.

Dr. C. K. Johnson presented a paper on Dietetics, which was discussed by Drs. Sears, Beecher, and Jackson.

Dr. W. H. Mitchell presented a paper on "Reminiscences of Life on the Border," which was discussed by Drs. Clark and Jenne.

A fee list for the City of Burlington was submitted by Dr. Eastman, chairman of committee for revision of schedule, and adopted by the society.

Day visits (7 A. M.—7 P. M.)—$2.00.

Night visits (7 P. M.—7 A. M.)—$3.00.

Office consultation—$1.00 up.

Minor surgical dressings at office—$2.00 up.

Obstetrics, delivery including three after-visits—$15.00 up.

(All other visits and consultations at regular rates.)

Consultation with attending physician—$5.00 up.

Nothing in this fee schedule shall be construed as preventing the giving of charity to those deserving.

Dr. Townsend and Dr. Caverly discussed the use of motion picture surgical films.

Jan. 25, 1917.

Monthly Meeting of the Burlington and Chittenden County Clinical Society.

Twenty-two members present and fourteen other doctors and students.

Drs. E. O. Crossman and C. L. Smart were elected to membership.

Dr. B. H. Stone spoke on Chronic Pancreatitis and showed specimens of Acute Hemorrhagic Pancreatitis; of Obstructive Biliary Cirrhosis; of Gumma of Esophagus and Larynx; of suprarenal glands from a patient who died of Addison's Syndrome following cancer of the breast with suprarenal metastasis; a specimen of Aortic Stenosis and one of an enormously dilated heart with aortic aneurism.

Dr. Pease presented history of the case which furnished the specimen of acute hemorrhagic pancreatitis.

Dr. Morrison presented history of the case which furnished the specimen of suprarenal from Addison's disease.

Dr. Beecher discussed the case of Addison's disease, the case of Acute Pancreatitis, the case of Aneurism and the case of Aortic Stenosis.

Dr. Lyman Allen spoke of fee schedule adopted by N. Y. Insurance Companies for Industrial Accidents to establish a uniform charge for specific treatment.

Dr. Allen moved the Society instruct Dr. Sears as member of Legislative Committee of State Society to vote against any attempt to reduce fees or period of compensation for industrial accident cases.

O. N. EASTMAN, M.D.,
Secretary.

News Notes

Dr. Walter H. Ranks of Shelburne died in a Burlington hospital January 17. Dr. Ranks graduated from the University of Vermont in 1896. His obituary will appear in the March number of *Vermont Medicine.*

Dr. O. J. Gilchrist of Rutland was severely injured recently by being thrown from a sleigh. He is now able to attend to his practice.

In his annual report, Dr. F. J. Ennis, full-time health officer of the city of Burlington, recommends an isolation hospital, a housing law, a sanitary code and the grading of milk.

On January 25th Dr. Merritt H. Eddy of Middlebury celebrated his 84th birthday. Dr. Eddy was born in Whitehall, N. Y., graduated from Middlebury college in the class of 1860, taught school two years and attended Harvard Medical college and graduated from the medical department of the University of Vermont in 1865. He has practised his profession in Middlebury for 52 years.

Dr. W. R. Bronson has been appointed health officer of the town of Lunenburg.

Vermont Medicine

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Rutland, Vermont, March, 1917.

Original Papers

ESTUARIES; THE IMPORTANCE OF THEIR CAREFUL EXPLORATION AND THE RESULTANT DISCOVERIES.

Read before the Vermont State Medical Society, Oct. 12, 1916.

By

George Riley Anderson, M.D.,
Brattleboro, Vt.

In choosing this subject of geographical title, I have been actuated by an unpleasant experience which occurred to me a few months ago, and the knowledge of several occurring in the practice of my colleagues, as the result of too hasty and incomplete investigation of sinuses and fistulæ. These important conditions, which we meet almost daily, should receive our close attention and careful study to determine their foci. Many of those afflicted wander for years from physician to physician, to the charlatan and back again through our fault, because of lack of thoroughness and the employment of modern methods of investigation.

With the perfection of the X-ray has come the method of exploration and discovery which has proven the greatest boon to these sufferers. Second only in value was finding a substance, bismuth, which could be used *ad libitum* in this diagnostic work. Without the employment of this method, which is of invaluable aid to the surgeon, we would regard any operation on sinuses or fistulæ in any part of the body, as a mistake. If a sinus cannot be traced to its origin, a cure by operation is practically impossible.

Sinuses and fistulæ are sequelæ of infectious processes occurring in bones, joints and parenchymatous organs, and in the vast majority of instances are of tubercular origin.

I was recently told by a physician returning from the Far East that tubercular sinuses are very prevalent there, occurring as frequently as one in five hundred persons. This is the result of poor hygienic surroundings and lack of intelligent diagnosis and treatment of foci to prevent their formation. So far as my investigation goes, this is many hundred percent greater than the proportion seen under our modern conditions, where every person improves his resisting power by proper hygienic life, wholesome exercise and proper nutrition, causing his system to respond more quickly to repel bacterial invasion. It is only when the system is below par and resistance lowered, that micro-organisms develop into a powerful and destructive force. Our bodies can take

care of a certain amount of injury and infection, and it is only when both are present, and our resisting forces are unable to cope with the pathogenic microbe, that we succumb to the enemy. In this struggle between invading germs and resisting forces inflammation is always present, and in the majority of instances this terminates in suppuration. Then comes the formation of an abscess, which is the father of all sinuses.

The character of the contents of an abscess depends entirely on the infecting microbe. In acute cases the organism is usually the streptococcus, and here the pus is thin and scanty. In the more chronic cases we find the staphylococcus, with pus thick, creamy and abundant.

In the tubercular abscess we find the contents a watery fluid with cheesy curds, when originating in bone, and, similar to staphylococcus pus when found in glands. Only rarely does pus from a tubercular abscess show tubercle baccilli, but these are found in abundance in the abscess walls or pyogenic membrane. This type is called cold abscess because it does not produce fever.

These abscesses have a tendency to undermine tissues and to seek escape by the lines of least resistance along the course of muscles and fasciæ until they reach the surface and eventually break spontaneously. The opening may be at such a distance from the focus that mistaken diagnosis is not unusual, though we believe inexcusable with the now available methods.

You will all recall that our text-books advised against incision of cold abscesses owing to the great danger of secondary infection, and many surgeons still advise this, but we believe that under proper technique this may be done with comparative safety.

A sinus is a suppurating tract or conducting channel, whose walls are composed of connective tissue with a granulating surface which is more or less constantly bathed in a purulent discharge.

Study of these tracts by means of bismuth injections and the X-ray reveals the fact that they are often many branched and irregular, showing pus pockets connected by narrow channels, and at some distance from each other, though originating from the same focus. The rule is that there is more than one opening, developing somewhat the form of a delta.

The method we use in the study of fistulous tracts and sinuses is as follows:—A mixture of bismuth subnitrate (arsenic free 33%, in vaseline, is sterilized by boiling in a porcelain dish. This is allowed to cool to about 120° and is then injected slowly and with gentle force by means of a sterile, blunt nose glass syringe, until the patient complains of pressure.

It will be found in the skiagraph that the bismuth has reached even the minute ramifications of the sinuses and in nearly all cases will clearly demonstrate the original focus of the disease.

In this class of work the stereoscopic radiographs are particularly useful in determining the exact course of the channels, as they so clearly demonstrate their relation to solid structures.

The advantage of this exploratory diagnostic method is apparent, when we consider how easy it now is to determine whether the case is an operable or inoperable one, and whether there is prospect of the radical removal of the focus.

Compare this exact method with blind explorations of former years by means of the probe, or, at operation, the in-

jection of coloring matter such as methylene blue, to determine the course of the sinus.

We have been impressed by the diagnostic errors which we have met in this class of cases, and which we ourselves have made, until they were cleared up by the X-ray-bismuth technique. We have seen osteomyelitis of the femur, with sinus formation, treated for hip joint disease; periostitis of the humerus, with sinus formation in the forearm, treated for blood poisoning; appendicular abscess with resulting sinuses on the anterior surface of the thigh, diagnosed psoas abscess; sinuses at Poupart's ligament, with diagnosis of inguinal adenitis, when the focus was in the dorsal vertebræ, and perirectal openings, diagnosed ischeorectal fistulæ, which proved on examination due to pelvic abscess.

As before stated, the majority of sinuses are of tubercular origin. One of the most frequent causes is Pott's disease. This is essentially a tubercular affection of the vertebræ, and it is of the utmost importance that the physician recognize it early if we hope to obtain a cure. However, many times the diagnosis is not made until the sinus develops, or at least until the abscess points. Infection usually begins in the body of the vertebra with a gradual destruction of the same, and the formation of an abscess. This allows the collapse of the spine at the weakened point with the resultant kyphus. The pus seeking an avenue of escape follows along the line of least resistance, which is usually fascia and muscles, and may open in Scarpaspa's triangle, the inguinal or lumbar region, or, where the cervical region is involved, in the triangles of the neck. Fortunately, there is nearly always a natural tendency to repair, and the gap caused by bone destruction fills in under favorable treatment.

Osteomyelitis is another important cause of sinuses. It may be of pyogenic or tubercular origin. Here again injury plays an important role, though pyogenic osteomyelitis may occur through the hematogenous route. It is not the purpose of this paper to discuss the pathology or bacteriology of these sinus-producing affections, but it is of intense interest to note the modus operandi of sequestrum formation. The accumulated pus raises the periosteum, and destroys the bone by depriving it of its circulation. Nature then detaches it. Here again the pus, following lines of least resistance, may find its way to the surface at some distance from the active focus. X-ray examination clearly shows the tract leading to the sequestrum.

Sinuses following hip joint disease are of common occurrence. However, all sinuses opening near the hip joint should not be positively diagnosed as due to this infection, as tubercular abscess of the sacrum may find its outlet at this site. Here, with ease, can the diagnosis be made by bismuth-X-ray examination.

Knee joint tuberculosis is frequently followed by sinuses which may form an intricate network in the thigh, following along the planes of fascia and opening at any point on the surface. Unless we carefully trace these, diagnostic error may easily be made.

Perhaps the fistula most frequently met by the practitioner is fistula in ano. These are always secondary to a peri-

rectal abscess, which, if allowed to spontaneously rupture, gradually shrinks up and degenerates into a fistulous tract. The openings may be single or multiple and may open into any part of the rectum, though usually the inner opening is between the internal and external sphincters. In the ordinary case with but one or two openings, it is permissible to examine by means of the probe, but where the fistulæ are numerous and show the characteristic large, irregular openings with edges drooping inward, and the tissues of a bluish tint, then resort to the more thorough method of bismuth-radiograph should be made, as this type may be the result of a tubercular focus in the sacrum which would not be disclosed by examination with the probe. The fistula in ano may vary greatly in its course and its shape, and should receive our most careful consideration before adopting medical or surgical treatment.

We report the three following cases of many we could cite, where lack of thorough sinus exploration resulted in much unnecessary suffering to the patients, and the discomfiture of the attending physicians:—

Case I.

Mr. H., aged 41.—Twelve years ago after an attack of "inflammation of the bowels" an abscess appeared below Poupart's ligament in the right thigh. This ruptured spontaneously. Patient entered a Boston hospital where the abscess cavity was curetted and packed. At the expiration of a few weeks it closed, only to reopen, and was again curetted. The wound contracted to two small sinuses which were discharging a purulent fluid on his admission to the Brattleboro Memorial Hospital twelve years later. The sinuses were injected and found to lead underneath Poupart's ligament into the abdomen. Through a right rectus incision an abscess cavity was opened at the caput coli and the remains of the appendix already amputated from the colon, but still receiving its blood supply through the mesoappendix, was removed. Bismuth injections used and sinuses closed. Patient later died of pneumonia.

Case II.

Mr. B. P., aged 50.—Family and personal history negative. Fourteen years ago suffered from an attack of "inflammation of the liver" to which he nearly succumbed. Three weeks later an ischeorectal abscess developed and ruptured spontaneously. It was followed one week later by a second abscess. The family physician decided to operate for fistula in ano and cut through the sphincter. Other fistulous openings soon appeared and were operated on in turn. During this period of fourteen years, patient performed most of his farm work, dressing his fistulæ several times daily, but his condition became so critical that he finally consented to another operation. Examination showed five fistulous openings about the rectum and an abscess over the sacrum. Thinking this case one of multiple fistulæ in ano, under ether, I opened the channels which converged to one fistulous tract, one-half inch in diameter, passing up posterior to the rectal wall. Much to my chagrin I was unable to locate the internal opening into the rectum. An electric sigmoidoscope was inserted and the rectum dilated with air. Bismuth paste was then injected into the sinus to the amount of 240 grams and still

no sign of an opening into the rectum. A bismuth-radiograph, which should have been made before operation, was then taken, and the condition was discovered. The large sinus with several deviating pockets led upward into the pelvis and apparently into the cæcum. A branch sinus completely encircled the rectum, leading through a foramen of the sacrum and entered the pus pocket, which was evacuted, on the posterior surface of the sacrum. A few days later an incision was made in the right rectus and a mass of adhesions was encountered involving the ileum and appendix from the lower right colon into the pelvis. These were liberated with difficulty and, at the lowest point in the cul de sac, was found the tip of the appendix and a loop of the ileum. On freeing these we discovered an opening one-half inch in diameter in the gut, through which the feces passed into the upper end of the sinus. The gut was closed, appendix removed and sinuses curetted, and bismuth paste injections used. In eight weeks the patient returned home well, with all sinuses healed. Apparently the "inflammation of the liver" fourteen years ago was an appendicitis with abscess in the pelvis which ruptured into the ileum. There was then a fecal reflux into the pus cavity and subsequently burrowing down through the peri-rectal tissues, resulting in the ileo-sacral and ileo-ischial fistulæ.

Case III.

Mrs. B. L., aged 20.—History negative. One year ago an abscess developed over the left ilium. It was opened and drained, and diagnosed as injury to periosteum. The wound continued to discharge until one year later when she was admitted to the Brattleboro Memorial Hospital. At this time there were sinuses opening in the left groin, left loin and over the crest of the left ilium. A bismuth-radiograph showed the sinuses and the focus in the vertebra. Under ether a crescent shaped incision was made over the right side of the spine extending to the sacrum, the supra-spinous ligament split, and intra-spinous-ligament divided. The spinous processes of the second, third, and fourth lumbar vertebræ were split to the depth of three-fourths of an inch and wound packed with saline gauze. Incision then made over crest of left tibia and section of same three-eighths of an inch square and eight inches in length removed with Albee saw. This was fixed in the split spinous processes by means of heavy Kangaroo tendon passed through the ligaments. The sinuses were treated with Bismuth paste and closed in six weeks. One year later the patient is without sinuses, and is perfectly well.

Just a word, in closing, about the use of bismuth paste in the treatment of sinuses. Remove the sequestrum, treat the focus, and bismuth paste, by inducing local leucocytosis, will do the rest. To our mind it is the treatment par excellence.

DISCUSSION

(Dr. W. G. Ricker, St. Johnsbury.)

In the treatment of these infections as a group of cases which come under the observation of the Ear and Throat men, there is a good deal depending on the thoroughness of the evacuation of the source of infection as to the work that the Ear men are able to do on the mastoid, the cleaning up of an acute infected mastoid to such an extent that the cavity is allowed to fill with blood. We are successful in about four out of five cases, the

fifth case showing simply a little infection at one corner of the wound. The essential point is I believe it is possible in all cases to so thoroughly clean up the mastoid in acute mastoiditis that you have healing by practical intention. Now, if that same thoroughness is employed in clearing up the sinuses that lead to the source, why should we not have the same results in a majority of the cases? The mastoid and spine are all the same in surgery before acute inflammation, before it has got to the state of necrosis, — I don't know how difficult a surgeon should find this particular line of work, — but if it is taken before it gets to this stage, it ought to be possible to do as thorough work upon the spine as the mastoid. And if that is possible, it certainly is possible to do as thorough work on the other bones as on the mastoid, and then we would not have an infection prolonged. After the sinus has been void, I am not sure, but I feel quite certain that in many cases a thorough removal of the bone tissue would also result in a much shorter convalescense.

Another thing, I spoke of a case to several of you this morning in the glands of the neck. Those we have been accustomed to open, and have them drained for weeks, sometimes for years, but generally speaking the drainage has been long. I do not know how many cases will correspond to this, but this has been done here recently. A gland of four months' standing, apparently what we would consider tubercular, but a gland which contained about four grams of pus, was opened by an incision, simply cleaned by finger and gauze, but not curetted, but in that case the tonsil removed, which was the source of infection.

I am simply speaking to emphasize the point that the doctor has made of the source of infection. This gland was drained three days, healed in five, and in a week was a perfectly clean, smooth wound. Simply, I want to make a plea to the men doing surgery to go to it a little deeper, a little more thoroughly, and see if the convalescense of these discharging pus cases cannot be shorter.

NATIONAL BOARD OF MEDICAL EXAMINERS

The second examination to be given by the National Board of Medical Examiners will be held in Washington, D. C., June 13, 1917. The examination will last about one week.

The following states will recognize the certificate of the National Board: Colorado, Delaware, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining states.

A successful applicant may enter the Reserve Corps of either the Army or Navy without further professional examination, if their examination papers are satisfactory to a Board of Examiners of these Services.

The certificate of the National Board will be accepted as qualification for admittance into the Graduate School of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the Secretary, Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia.

The operation of compulsory vaccination was suspended in Zurich, Switzerland, in obedience to popular clamor, in 1883. The deaths from smallpox per 1,000 total and that year had been, in 1881, 7 in 1882, 0; in 1883, 8. They rose, after compulsion had ceased to be used, in 1884, to 11.15; in 1885, to 52, and in the first eight months of 1886, to 75 per 1,000.—*The Medical Pickwick.*

HERNIAS OF THE URINARY BLADDER

By

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Nature. Modern Operative Treatment. Conclusions*

The permanent or temporary escape of a part or the whole of the urinary bladder, through any of the usual or unusual hernial orifices, is uncommon. Nevertheless, many cases have been published and a much larger number have been allowed to pass without record. In a long series of hernia operations, every surgeon is certain to meet with some instances of hernia of the bladder. The urinary bladder in part or in its entirety is present in 1 per cent of all hernias.

Though the term hernia implies the presence of a hernial opening, of a hernial sac, sac-contents and sac-coverings, we know that in many hernias of the urinary bladder, the sac is either incomplete or totally absent.

To designate the clinical entity under consideration, we fail to find any other term more appropriate, more sanctioned by long usage than that of hernia of the urinary bladder.

Many operators have unknowingly punctured, incised, ligated or removed a herniated bladder-process and then closed the hernial canal and operative wound in the usual way. Bladder protrusions have been excised by mistake for hernial sacs, or stitches used to close hernial canals have been passed too deeply and found at the necropsy to have caught the bladder.

As vaginal bladder hernias fall more appropriately within the domain of the gynecologist, we decided not to include them in this contribution. All the hernias herein considered were external hernias, that is, their outermost overlying saccular covering was skin; each after reaching a certain stage of development, gave rise to a more or less visible and palpable, external swelling in the obturator, femoral, inguinal or other region, depending upon the anatomical location of the hernia.

We will discuss the subject under the following sub-heads:—

1. Incidence as to age,
   as to sex,
   as to side involved.
2. Anatomical types.
3. Clinical types.
4. Etiology.
5. Symptomatology.
6. Clinical manifestations.
7. Operative findings.
8. Diagnosis.
9. Treatment.
10. Conclusions.

Incidence as to Age

It was not possible, in most cases, to ascertain the age at which the hernia first appeared. We therefore tabulated the age of the patients at the time of

*This article is based on an analysis of all the vesical hernias reported with sufficient data in the English, French and German languages from 1896 to 1914, inclusive (literature to which access can be had at the John Crerar Library, Chicago, Illinois), and also on some unpublished personal cases, in all one hundred and fifty-nine patents, representing one hundred and sixty-four vesical hernias, and justifies in our opinion the conclusions that follow.

operative relief. In three cases, the patient's age at time of operation is not or is indefinitely stated (a young man, a multipara). The other patients at time of operation were from:

18 months to 5 years old	7 cases
6 years to 14 years old	6 cases
16 years to 25 years old	9 cases
26 years to 35 years old	27 cases
36 years to 45 years old	31 cases
46 years to 55 years old	36 cases
56 years to 65 years old	18 cases
66 years to 75 years old	15 cases
76 years to 80 years old	5 cases

Our personal clinical observation and a review of the literature justify the following conclusions as to age incidence of hernias of the urinary bladder:—

a. They are extremely rare in infancy, childhood and adolescence. During the first year of life, not one patient, and previous to the sixteenth year, only thirteen patients are reported to have been operated on for hernia of the urinary bladder.

b. They are most frequent after the fortieth year of life. Ninety-one patients out of one hundred and fifty-nine unselected consecutive herniated individuals were operated on for the relief of this condition during the fifth and subsequent decades of life.

c. Hernia of the bladder is an infirmity occurring chiefly in advanced life.

Incidence as to Sex

Hernias of the urinary bladder, like all hernias of viscera common to both sexes, are found more frequently in males. The one hundred and sixty-four hernias herein studied and analyzed were distributed as follows:—Masculine pseudohermaphrodite 1, females 62, males 96.

Case reports show that, in the female, these hernias occur in nulliparae, in primiparae and in multiparae. They first become manifest either before, during, or after gestation, or between successive pregnancies.

In looking over the cases, we find that vesical hernias have occurred in:—

1-para	5 times
2-para	3 times
3-para	2 times
4-para	1 time
6-para	1 time
8-para	2 times
9-para	1 time
14-para	1 time
Multipara	3 times

In the other female subjects, no definite statement is made as to pregnancy.

Incidence as to Side Involved

Most hernias of the urinary bladder are unilateral. Out of one hundred and fifty-nine patients suffering from this infirmity, only five presented double vesical hernias. In thirty-seven females and fifty-one males, the hernia was on the right side; in seventeen females and forty-one males, it was on the left side. We thus see that hernias of the urinary bladder show in both sexes a noticeable predilection for the right side.

In bilateral hernias, both hernias either appear simultaneously, or, as is more frequent, an interval of time, measured in weeks, months or years, elapses between the appearance of the first and that of the second hernia.

Anatomical Types

Hernias of the urinary bladder appear at various anatomical sites. Indirect or oblique inguinal hernias escape from the

abdomino-pelvic cavity, above Poupart's ligament, by way of the external inguinal fossa, and follow in their progress outward the course of the spermatic cord in the male, or of the round ligament in the female. They are complete or incomplete, according as the herniated viscus or viscera emerge or not beyond the external opening of the hernial canal. The complete are pudendal or scrotal. In the former, the hernial swelling descends into a labium majus, in the latter into a scrotal pouch.

Direct inguinal hernias escape from the abdominal cavity by emerging through either the middle or the internal inguinal fossa and first appear externally at the superficial abdominal ring. Direct inguinal hernias are always to the inner or medial side of the deep epigastric vessels, and, unlike the indirect, do not follow the entire course of the inguinal canal.

In our cases, we find twenty-seven patients with direct inguinal hernias and eighty-seven with indirect or oblique inguinal hernias. Of the twenty-seven patients with direct inguinal hernias, five were females. Direct hernias are very rare in the young. Thirteen of the eighty-seven patients with indirect or oblique inguinal hernias were females.

In our list of cases, there were forty-two femoral hernias, forty of which occurred in female patients and two in males.

What precedes shows that:—

a. Inguinal vesical hernias are more common in men than in women.

b. Femoral vesical hernias are far more common in women than in men.

c. Femoral hernias of the urinary bladder are an exception to the general rule, which is that inguinal hernias are more frequent in women than femoral hernias. Forty female patients presented femoral vesical hernias and only seventeen presented inguinal vesical hernias.

d. Direct inguinal vesical hernias are of frequent occurrence. Out of one hundred and fourteen inguinal vesical hernias, twenty-seven were of the direct variety, that is, in twenty-seven cases the herniated bladder process was to the inner side of the deep epigastric artery.

Gladstone's case of left obturator extra-peritoneal bladder hernia is the only obturator vesical hernia reported in the period covered by this paper. It coexisted with a right obturator tubal hernia of the third variety and a right reducible femoral intestinal hernia.

Gerulanos' and Tédenat's cases were irreducible supra-pubic vesical hernias of the linea alba. In these two cases both of which occurred in eight paras, the pedicle of the hernial swelling passed above the upper surface of the symphysis pubis, and had emerged from the abdominal cavity through a round orifice between the two recti muscles.

According to the relation which the bladder protrusion bears to the peritoneum, hernias of the urinary bladder are classified into the following three varieties:—

a. Intra-peritoneal, in which there is a complete hernial sac.

b. Para-peritoneal, in which the herniated bladder-process is covered by peritoneum on one surface.

c. Extra-peritoneal, in which the herniated portion of the bladder is neither engaged in nor contiguous to a hernial sac.

In the intra-peritoneal variety, the

herniated portion of the bladder has a complete peritoneal covering and is contained in a true hernial sac. In the para-peritoneal variety, the herniated bladder-process lies to the inner side of the sac, and its serous covering enters in part into the formation of the hernial sac. Part of the herniated bladder-process has no peritoneal covering. The para-peritoneal form is not uncommonly a sliding hernia, and is frequently due to a continuous pull and traction exerted by the sac of an existing enterocele, epiplocele or entero-epiplocele upon the peritoneal covering of the urinary bladder. In the extra-peritoneal variety, the herniated bladder-process has no peritoneal covering. The prolapsed bladder is neither present in nor does it enter into the formation of a hernial sac. The extra-peritoneal bladder-protrusion is in relation with the subcutaneous tissues and is always distinct from and to the inner side of the hernial sac, if one be present.

In the one hundred and sixty-four reported cases, the hernia is definitely stated to have been:—

Intra-peritoneal in 4 cases (females, 1 case).

Para-peritoneal in 53 cases (females, 21 cases).

Extra-peritoneal in 58 cases, (females, 22 cases).

In the cases not included in the above tabulation, the relation of the herniated bladder-process to the hernial sac, when one was present, is not precisely recorded.

Clinical Types

Any hernia of the bladder, be it intra-peritoneal, para-peritoneal or extra-peritoneal, may be reducible, irreducible, inflamed, obstructed or strangulated.

If the contents of a hernial sac return spontaneously to or can be manipulated back into the abdominal cavity from which they have escaped, the hernia is said to be reducible. At first most vesical hernias are reducible; the larger number, sooner or later, become irreducible. Reduction of hernial contents, spontaneous or manual, may be temporary, may be permanent, and is effected with more or less difficulty (general anesthesia may be required). In our collected cases, there were forty-eight hernias, the contents of which could be completely reduced. Sixteen of these occurred in female subjects.

If the hernial sac-contents cannot be manipulated back into the abdominal cavity, the hernia is said to be irreducible, provided that the irreducibility *per se* does not cause any functional disturbance of the herniated organ or organs, and none or but slight interference with the blood supply thereof. The irreducibility may be recent or of long duration. Partial and complete irreducibility predispose to inflammation, obstruction and strangulation. Irreducibility is either of sudden or gradual onset. We noted fifty-eight irreducible vesical hernias, twenty-one of which occurred in females.

If communication between the herniated and the non-herniated portion of the bladder be more or less interfered with, the urinary bladder being transformed, in some instances, into a bissac, the hernia is said to be obstructed.

If, in addition to irreducibility of the sac-contents, the blood supply of the herniated organ or organs is interfered with to such a degree that their vitality

is endangered or lost, the hernia is said to be strangulated. Strangulation may follow a paroxysm of cough, heavy lifting, a fall, any strong muscular effort associated with great sudden increase of intra-abdominal pressure. There were twenty-two strangulated hernias, eleven of which occurred in females. In some cases, the hernia of the bladder exists alone and becomes strangulated. In some of these strangulated cases, the vesical hernia was associated with an enterocele, an epiplocele or an entero-epiplocele, the bladder was not constricted and the herniated omentum or intestine or both were strangulated. In others, the bladder was strangulated and the herniated omentum, intestine or both were not constricted. Bladder-wall offers more resistance to constriction than intestine. Strangulation of the bladder is especially grave if renal disease co-exists.

Etiology

The etiology of these hernias is largely the etiology of hernias in general. In the causation of this pathological lesion, the following factors are of importance:—

A. All conditions that tend to increase intra-abdominal pressure.

1. Occupations necessitating repeated muscular efforts associated with increased intra-abdominal tension, as the lifting or pushing of heavy weights, etc. (over twenty cases in our series).

2. Physiological or pathological states which distend the abdominal cavity, stretching the abdominal parietes, and widening the orifices normally present in the muscular and aponeurotic layers of the abdominal wall (enteroptosis, obesity, abdominal tumors, ascites, pregnancy, etc.).

3. All diseases associated with frequently repeated increase of intra-abdominal pressure (long-standing lung affection, pulmonary emphysema, chronic bronchitis, habitual constipation, etc.).

B. All conditions which weaken the abdominal wall.

1. Acute or chronic diseases debilitating the organism, especially such as cause great emaciation.

2. Obesity weakens the abdominal wall and increases the intra-abdominal pressure.

3. Traumatism. Most often the traumatism does not cause the hernia, but only reveals its existence (abdominal operations). Pathologic adhesions of viscera or omentum to the anterior parietal peritoneal wall near a hernia opening may act as a predisposing cause.

4. Previous hernia operations.

5. Enteroceles, epiploceles and entero-epiploceles.

6. Feeble development or atrophy of the aponeurosis of the transversalis muscle and of the conjoined tendon. This factor is of great importance in direct inguinal hernia.

7. Unduly large hernial rings.

8. Excessive breadth of hernial canal.

9. Congenital defects present in abdominal wall.

10. Inherited or acquired weakness of abdominal wall.

11. Pre-existing hernial sacs of pre- and post-natal formation.

C. All conditions associated with prolonged over-distention, over-stretch-

ing, impaired contractility, restricted mobility, etc., of the urinary bladder.

1. Congenital malformations of the bladder.

2. Diseases of the lower urinary organs, impairing the expulsive force of the bladder or abnormally hindering the outflow of urine (vesical catarrh, prostatic hypertrophy, urethral stricture, phimosis, etc.).

3. Abnormal increase of the perivesical fatty connective tissue (lipome pré-vesical).

Symptomatology

Hernias of the urinary bladder are congenital or acquired, recent or recurrent, and of greater or shorter standing. They vary in shape, volume, rate of growth and in amount of discomfort and disability entailed. Occasionally they occur at the site of a previous hernia operation.

Hernia of the bladder is usually an acquired condition. It occurs most commonly in late adult life and is, not infrequently, secondary to pelvic, vesical and urethral disease. Twenty-seven patients presented direct inguinal hernias. Direct inguinal hernias are said to be always acquired hernias. Forty-two patients presented femoral hernias. All these femoral hernias, excepting one case — that of a five-year old female child and reported by the author to be an acquired hernia, first became manifest in adult life. Congenital femoral hernias are pathological rarities. Femoral hernia is essentially a hernia of adult life. Congenital hernias appear at all periods of life. Even at the time of operation, one may be unable to differentiate between a sac of pre-natal and one of post-natal formation.

Size is variable. A few of the reported hernias simply pointed; the others ranged in size from that of a hazelnut to that of a man's head. In many, the hernial swelling is merely stated to have been large, voluminous.

The hernial swelling may be cylindrical, ovoid, elongated-ovoid; it may be grooved or bilobed, soft, elastic and fluctuating, or hard and non-elastic. The hernial swelling may be a large, tense, smooth tumor, may occupy the scrotum, may extend as far as the middle of the femur, may occupy an entire labium, thereby distorting the vaginal opening.

The volume of a hernia is liable to rapid and considerable changes, being influenced by clinical type of hernia, position of body, amount of urine present in bladder, etc. The hernial swelling gives a dull or tympanitic percussion note.

Pain is an inconstant symptom. Ten of the reported cases are said to have been painless.

Diverse urinary disturbances (subjective and objective) may be present. These disturbances may be occasional or constant.

Patient in order to urinate may find it necessary to elevate or to compress the scrotum and its contents, or to both elevate and compress the scrotal contents. These patients sometimes resort to unusual positions to empty their bladder: dorsal decubitus. In a few cases, on account of the narrowing or compression of the joining isthmus, considerable difficulty is experienced in emptying the scrotal or labial portion of the bladder into the pelvic portion.

Vesical tenesmus. Pressure upon hernial swelling gives desire to urinate.

Burning on urination. Frequent,

difficult and painful micturition is noted in many cases.

Objective:—

Increase of swelling with accumulation of urine, decrease with voiding.

Two-step urination (Miction à deux temps) (associated with a simultaneous lessening of the hernial swelling).

The injection of fluid into the bladder causes an increase in size of the hernial swelling. A sound introduced into bladder may enter the herniated bladder-process. A cystoscope introduced into bladder may show the round contour of the normal bladder distorted into T-shape, may show the vesical opening of the herniated bladder-process, etc.

Vesical hernias may exist alone, may be one of two or more hernias, coexisting with a hernia of other organ or organs on the same or opposite side of the body. Other congenital or acquired anomalies may be present: — phimosis, ectopia testis inguinalis, cryptorchism, vaginal cystocele, hydrocele, prolapsus uteri, hydrocele of hernial sac, etc.

Pathology

In many cases, note is made of excessive breadth of hernial canal, of enlarged hernial rings. The spermatic cord may be to the outer side of the hernial swelling, may be spread out over the hernial sac, may be behind sac, may be below and external to sac, may be spread out over bladder (anterior and outer surfaces).

To differentiate a hernial sac of prenatal formation from one of post-natal formation is at times difficult, at times impossible.

Acquired hernial sacs, except in hernias "par glissement", are always entirely derived from the parietal peritoneum.

Sac may be thin or thick, congested and infiltrated, intimately adherent to the spermatic cord, and, not uncommonly, is capped by a thick mass of fatty tissue. An extra-peritoneal bladder hernia has no serous hernial sac.

There may be an unusual amount of fat in the hernial canal. In the extra- and para-peritoneal forms, the herniated bladder-process is frequently covered with fatty tissue, the "lipome herniaire" of the French authors. This pre-vesical accumulation of fatty tissue is thought by many to be an important contributory etiological factor.

In the para-peritoneal hernias, the serous sac is, at one point, intimately adherent to the bladder-wall. In the para- and also in the extra-peritoneal types, if a sac be present, the bladder is always to its inner, to its medial side, and, at times, below. The bladder may be adherent to the hernial sac, may be adherent to the spermatic cord.

Amount of viscus present in hernial swelling may be small, may be large. In some cases, the hernial swelling consists solely of the herniated bladder-process and of the increased amount of fatty tissue overlying it; in other cases, fifteen in our series, the hernial swelling consists of a serous hernial sac and of the herniated bladder-process or bladder-diverticulum. In a large number of cases, the hernial swelling includes a herniated bladder-process and a distinct or contiguous serous hernial sac with or without sac-contents. The hernial sac-contents may be hernial fluid, a part of right ureter, omentum, small intestine, large intestine, intestine and omentum, small and large intestine.

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Rutland, Vt., March, 1917.

Editorials

BIRTH CONTROL

The disproportionate increase of mankind beyond the means of subsistence was noted with alarm by Malthus ninety-one years ago, and has ever since remained a favorite subject for comment and discussion among political economists. While the fact is undisputed the alarm, in our country at least, has never been seriously felt, and today although we are informed by experts that seven hundred million dollars worth of food is annually wasted in our kitchens, there does not seem to impend any valid threat of a real dearth of food supplies, however much the markets are manipulated by speculation for private gain or by the agents and emissaries of foreign governments seeking to cause international complications by creating a fictitious shortage. The activities of men like Leiter and Patten, who realized millions of dollars by operating in wheat on the Chicago Stock Exchange, no less than those of the members of the recently exposed food conspiracy in New York City, should be prevented or punished by adequate laws enacted for that purpose and rigorously enforced. This, by the way.

It is said that in the present propaganda for so-called Birth Control, there is a reminiscence of the Malthusian theory and that in fact the whole hysterical movement is ultimately based on that unstable academic hypothesis. But whatever its shadowy basis, the propaganda is actual enough and likely to invade our own State in the near future if it has not already begun to propagate itself here. In other States it has enlisted an immense number of recruits. Men of all professions and of none, have joined their ranks; old ladies of both sexes, social agitators and would-be reformers, are engaged in the crusade.

Legislatures have been attacked and Medical Societies invaded. Their direct purpose is to improve social conditions by procuring the passage of laws for the Prevention of Conception.

The expounders and advocates of this movement characterize it as "a noble and beneficent cause." This is knocking mankind on the head with a vengeance. One stands aghast at such a propaganda as that. With a steadily decreasing

birth ratio throughout the civilized world it would seem unnecessary to hasten the obsequies of humanity by such a step. Of course, it can never become effective and we have no occasion to dread any result that would be practically destructive. But what shall we say of its morality? We may properly discuss the question for a moment, since some of our own profession have been seduced and it is quite probable that more will follow. With every physiological act whose performance is essential to life, nature has associated a certain pleasure as a premium for the satisfactory accomplishment of that act. This pleasure rises in exact ratio to the importance of the act itself and since one of the most important of all physiological acts is the propagation of the species, a very especial pleasure is annexed to its performance. By this reward nature wisely safeguards the permanency of humanity. It is true that individuals make the frequent mistake of seizing the reward and neglecting the duty, but the movement for Birth Control is an attempt to regularize and enforce a principle that is exactly subversive of a natural law.

But there is another alleged reason for the pernicious activities of the Controllers. It claims to be a movement for the elimination of degeneracy, crime, poverty and disease. The question of disease may be safely left to the profession of Medicine which has already achieved all the victories that have as yet been recorded in disease control; the question of race degeneracy is perhaps in great part to be answered by the sterilization of the feeble-minded and others who are found to be "unfit" among whom the advocates of Birth Control may or may not be included; the question of crime calls for universal and compulsory prohibition and for such prison reforms as may remove neophytes in crime from the demoralizing influences of our 20th Century penal institutions, while the problem of poverty may eventually find its solution in such a convention of Capital and Labor as will secure to the Laborer his honest share in the profits of his own industry. Christian Science has, it may be remembered, already abolished poverty and disease by the simple and foolish scheme of denying their existence, but the actual sick and poor have not yet been abolished.

Even when denouncing the Birth Control movement as pernicious, immoral and deservedly infamous we nevertheless feel how impossible it is to characterize it in suitable and adequate words. Fortunately it makes such a despicable and degraded appeal to a perverted instinct, that it can never withstand, much less overcome, our innate rectitude of obedience to a great natural law. It was Saint Pierre who remarked that Nature is always virtue.

It seems reasonable to expect that a party of Birth Controllers whose aim is to contravene one of the fundamental laws of Nature, would have little respect for the principles governing the formation and use of words. They, or someone for them, have introduced the words *contraception* and *contraceptive* to denote the prevention of conception and what pertains thereto. These words have no meaning at all. *Contra* we understand as meaning against, or in opposition to, but what does *ceptive* mean? There is no process of reasoning or legerdemain that can bestow on that combination of letters the meaning of *pregnant*. We will remark without incurring any obligation of sanction or

advocacy, that the words *contra-conception* and *contra-conceptual,* while they violate all the known rules of euphony as badly as the Birth Controllers violate the rule of moral decency, are nevertheless structurally less objectionable than the words we criticize.

In an article on word-coinage in the February issue of VERMONT MEDICINE the word hysteropexy got by the Censor in the form hysteropery. We speak of this now to remark that the termination *pexy* does not reproduce the actual Greek word. It should be *pexis.*

In a February issue of one of our great medical journals we read "I believe the physician should under all circumstances eliminate the mouth as a possible source of infection." No physician can do that. That operation comes rather under the head of transcendental surgery. In the same issue reference is repeatedly made to a new disease "pruritis ani," and still another physician tells of the results of "imune (sic) or normal serum." The *imune* may like *hysteropery* be a typographical error, but while serum may be innocuous it cannot be immune.

We are moved by no reasonable hope that our few strictures on medical terminology and word-grouping can have any corrective influence on the kind of language that doctors use, and the horrible words that can only have been suggested by nightmare, but it eases our individual conscience to have called casual and momentary attention to the subject.

THE TUBERCULOSIS BILL

While at the moment of writing, the Bill that is before the Legislature to provide retreats for the reception of advanced cases of Tuberculosis has not as yet passed into a law, we are glad to announce that there seems a good hope that it will be enacted. This is a measure in which the State has a vital interest, since it promises to remove a menace to society at the same time that it affords to these unfortunate people a prospect of kindly care as long as they remain. This matter formed the theme of one of the editorials in the first issue of VERMONT MEDICINE and it is with much satisfaction that we note the probability of the passage of this Bill.

VERMONT DEATH RATES FOR 1916

The vital statistics for the year 1916 are now sufficiently made up to show the number of deaths from principal causes, including the communicable diseases. Typhoid fever shows the lowest death rate ever reported in Vermont, only 24 deaths occurring from this disease, against 47 in 1915, 44 in 1914, and 30 in 1913, which was the lowest record at that time. There were no epidemics of typhoid during the year, only 165 cases being reported, compared with 329 in 1915.

The epidemic of measles which began in the fall brought the total cases of the year to 2,853, with 25 deaths. The last great epidemic of measles gave rise to 3,057 cases and 27 deaths in 1912, and 6,718 cases with 80 deaths in 1913. Whooping cough also shows up larger than for several years with 2,548 cases and 48 deaths. In this connection, it is to be noted that when epidemics of influenza or grip prevail, deaths from respiratory diseases such as whooping

cough and tuberculosis are likely to increase. The widespread infection of grip last year resulted in 340 deaths. Strangely enough the curve of pneumonia does not follow influenza as closely as one might expect. There were 474 deaths from pneumonia, all forms, compared with 481 in 1915, 467 in 1914 and 594 in 1913.

Diphtheria shows only 23 deaths out of 446 cases reported, this being the smallest year for this disease, with the exception of 1912, when there were only 18 deaths. Scarlet fever, on the other hand, has prevailed very largely throughout the state, usually in mild form, 704 cases being reported, but with occasionally virulent cases, as shown by a record of 13 deaths, this being a greater number than for 14 years, with the exception of 1913 when there were 17 deaths.

As intimated above, tuberculosis of the lungs showed a rather decided increase in the last year, with 320 deaths, compared with 263 the previous year. The epidemic of grip is probably responsible for this increase. There were 63 deaths from tuberculosis of other forms.

Vermont will probably continue to hold its place as the state having the highest death rate from cancer, as for the first time since vital statistics have been collected, the number of deaths from cancer has passed the 400 mark. Deaths from all forms of cancer totaled 408, compared with 381 in 1915, and 397 in 1914.

The chronic diseases contributed very largely to the total deaths, 452 being due to apoplexy, 720 to organic heart disease and 325 to Bright's disease.

Reduction of deaths from communicable diseases cannot be accurately estimated by taking one or two years at a time. It is necessary to go back for several years and compare with the present in order to show what is being done in the control of these diseases. The following table is made up to compare the five years, 1882 to 1886, just prior to the organization of the State Board of Health, and the five years, 1911 to 1915, taking deaths from four diseases: typhoid fever, scarlet fever, diphtheria and tuberculosis. The average saving of 778 lives per year from these four diseases alone is surely a record of which Vermont may be proud.

Deaths	1882-1886	Av'ge per year	1911-1915	Av'ge per year
Typhoid Fever ..	576	115.2	199	39.8
Scarlet Fever ...	303	60.6	46	9.2
Diphtheria	956	190.2	150	30.4
Tuberculosis	3,723	744.6	1,449	253.2
	5,558	1,110.6	1,844	332.6

Total Saving of Lives for 5 years 3,714
Total Saving of Lives per year 778

CHAS. F. DALTON.

COMMITTEE OF AMERICAN PHYSICIANS FOR MEDICAL PREPAREDNESS

State Committee for Vermont.

Members of the State Committee for Vermont of the Committee of American Physicians for Medical Preparedness met Wednesday evening, March 15th, at the Hotel Vermont with Chairman W. W. Townsend of Rutland, presiding. It was voted to appoint an auxiliary medical defense committee for each county of over 10,000 population to take an immediate census of all the phy-

sicians fit for service in the Medical Departments of the Army or Navy and to obtain the names of those who are able and willing to serve with the medical reserve corps in a national emergency.

It was also voted to take an inventory of all the hospitals in the state to determine their facilities for caring for patients, the number each can accommodate, number of operating rooms, X-ray equipment, clinical laboratories, etc. A list of the physicians who do special work, such as surgeons, eye and ear men, etc., will be made up.

Dr. Townsend had previously been appointed chairman of the Vermont Committee and Dr. J. M. Hamilton of Rutland was elected secretary. The other members of the State Committee for Vermont are: Drs. J. M. Allen, St. Johnsbury; Lyman Allen, Burlington; Geo. R. Anderson, Brattleboro; C. H. Beecher, Burlington; W. F. Hazelton, Bellows Falls; E. H. Ross, St. Johnsbury; Wm. Stickney, Rutland; J. B. Wheeler, Burlington. The Auxiliary Defense Committees for the counties are as follows; the first named being chairmen:—

Addison:—Drs. E. H. Martin and S. S. Eddy of Middlebury, F. M. Rogers of Vergennes, A. M. Norton of Bristol and I. P. Sharon of Shoreham.

Bennington:—Drs. C. W. Bartlett and L. H. Ross of Bennington, C. M. Campbell and L. M. Kelley of Manchester and F. C. Liddle of Dorset.

Caledonia:—Drs. F. E. Farmer and W. G. Ricker of St. Johnsbury, A. A. Cheney of Lyndonville, G. C. Rublee of Hardwick and F. C. Kinney of Greensboro.

Chittenden:—Drs. J. N. Jenne, G. M. Sabin, B. D. Adams of Burlington, W. H. Mitchell of Shelburne and G. H. Branch of Grand Isle.

Franklin:—Drs. E. A. Hyatt and H. H. Johnson of St. Albans, R. B. Thomas of Enosburg, W. H. Wright of Franklin and R. M. Pelton of Richford.

Lamoille:—Drs. G. L. Bates of Morrisville, H. F. Barrows of Stowe, C. S. Leach of Hyde Park, A. V. Cooper of Wolcott and R. G. Prentiss of Johnson.

Orleans:—Drs. O. B. Gould, A. D. Longe and J. F. Blanchard of Newport, F. N. Aldrich of Derby and R. M. Wells of Orleans.

Rutland:—Drs. G. G. Marshall of Rutland, J. J. Dervin of Poultney, T. J. Hagan of Pittsford, C. E. Griffin of Fair Haven and J. W. Estabrook of Brandon.

Washington:—Drs. C. J. Rumrill of Randolph, F. W. Harriman and E. A. Colton of Montpelier, J. H. Woodruff of Barre and G. S. Bidwell of Waterbury.

Windham:— Drs. J. A. Stevenson of Chester, A. L. Miner of Bellows Falls, H. W. Taylor and W. H. Lane of Brattleboro and W. D. Bowen of Saxtons River.

Windsor:—Drs. F. A. Edmunds of Bethel, A. L. Patch of Windsor, W. M. Huntington of Rochester, A. C. Eastman of Woodstock and D. S. Drake of White River.

As the state medical college is located at Burlington a city committee for that place was named as follows: Drs. J. B. Wheeler, Lyman Allen, C. H. Beecher, J. B. Bourke, H. C. Tinkham and H. N. Jackson.

The meeting was adjourned subject to the call of the chairman.

Any physician in the state who is interested in the movement and has not received notice should communicate with the secretary.

J. M. H.

THE MEDICAL RESERVE CORPS OF THE ARMY

As now constituted this Reserve Corps will cease to exist June 3d, 1917 for, under the act becoming effective that day, the Medical Corps will be an integral part of the Officers Reserve Corps of the Army.

Today, officers of this Reserve Corps are of one grade only— first lieutenants. These are subject to call with their consent in times of war or times of peace. If they do not care to respond to such call their commissions are vacant and no penalty is attached.

Their pay is $166.67 per month with the usual allowances to mounted officers.

Under the new order the Medical officers of the Reserve Corps will be of three grades, 1st Lieutenant, Captain and Major.

The Lieutenants may be called upon, with their consent, in times of war or of peace.

The Captains and Majors may be called into active service only in time of war or threatened war.

The pay of the Lieutenants will be as now but the higher officers will be paid according to rank.

Full details of the new regime will be found in Bulletin No. 16 of the War Department, dated June 22, 1916, which may be obtained from the Adjutant General of the Army, Washington.

J. M. H.

Progress in Medical Science

TUBERCULOSIS PLUS

A paper published by Dr. Alfred Henry in the *Journal of the Indiana State Medical Association,* entitled "Tuberculosis Plus," presents a number of points of interest. The author's chief argument is that the tubercle bacillus, working by itself, alone and unaided, is not a very destructive organism. He mentions cold abscess as an example of the very slow action of the T. B., and also the slow progress of spinal tuberculosis, tuberculous dermatitis, etc., when there is no other infection present. While one could never think of denying the vastly greater danger that presents itself when the tubercle bacillus is joined by one of the pus organisms, one can but remember that the tubercle bacillus alone may under favorable conditions, produce great and rapid destruction. Tuberculin, the poison of the tubercle bacillus, is capable of producing high fever and other severe symptoms in the absence of pus germ contamination. Miliary tuberculosis is sufficiently violent and is still a pure tuberculosis.

Tuberculosis with a *plus*, meaning an added infection with some pus-forming cocci, the colon bacillus etc., or a second lesion, tuberculous in character, like a tuberculous kidney added to a pulmonary tuberculosis, as alluded to by Dr. Henry, or with a plus in the shape of a complicating disease such as disease of the accessory nasal sinuses, chronic appendicitis, pelvic abscess, etc., is certainly a much worse enemy to fight than plain tuberculosis without the plus.

Dr. Henry charges the surgeons with doing "otomies and ectomies on many a patient who has a known or unknown primary tuberculous lesion under ether anesthesia and producing a full blown *plus* in the form of a secondary infection." He mentions particularly removal of cervical glands and operations upon ischiorectal abscesses and mastoids. Of course, one knows that cervical glands are no longer extirpated when tuberculous except under rare conditions. In the young they usually grow smaller after the age of 12 is reached. At any age tuberculin and X-ray combined with good hygiene, food and fresh air are usually better than surgery, except the simple opening and draining of a broken down gland *which threatens to break through the skin.* Furthermore one must remember that the removal of diseased tonsils now and then causes the cure of enlarged cervical glands. Mastoid operations are at times imperative to keep the patient alive long enough to get over tuberculosis.

It is a good rule not to open communication between a tuberculous lesion and the air if it

can possibly be avoided. Henry emphasizes this in regard to abscesses near joints; or to opening joints, to resecting ribs and drawing off pleural effusions. It is well to follow the rule of non-interference in these cases if possible. Pleural effusion if not purulent and not in sufficient amount to seriously interfere with breathing or crowd the heart may better be left alone than aspirated. A fluid which is merely cloudy or murky and opaque but without germs aside from tubercle bacilli is not really purulent though it may look so and is not always to be withdrawn.

Henry mentions instances of serious injury done by operations under ether. This tendency of ether is undeniable. If the ether vapor is warmed before it is inhaled the chance of irritation being produced in the lungs is lessened. However, local anesthesia with or without gas, and oxygen anesthesia are far safer in cases of pulmonary tuberculosis, when operation is necessary.

Henry's paper is an argument in favor of letting things alone, "of watchful waiting," if tuberculosis is present, and certainly sounds a very wise and necessary warning.

There is however another side to the question very well brought out in Kinghorn's paper on Appendicitis referred to last month and in the paper "Tuberculosis Often of Secondary Importance to Other Pathological Conditions," read by Dr. C. D. Parfitt at the last meeting of the Nat. Assn. for the S. and P. of T. In this paper Dr. Parfitt describes a case of tuberculosis complicated by bronchitis and chronic disease of the accessory nasal sinuses which became practically well after operative treatment had cured the sinusitis. He also mentions cases of salpingectomy, curettage, appendectomy, iliosigmoidostomy with ileostomy, and bilateral ovariotomy for inflammatory conditions with severe menstrual reflexes, in all of which marked improvement or apparent cure of the tuberculosis followed the removal of the other condition which lowered resistance. I could add, myself, a case of nephrectomy, several cases of chronic and acute appendicitis and of pelvic disease which improved after operation and had been either failing or standing still before.

The balance between the two courses must be decided separately in each case. Interference or watchful waiting must be followed according to the particular circumstances and conditions of each case. As a general rule blood-letting and etherization are to be avoided in active pulmonary tuberculosis. Nevertheless occasions arise where a patient is clearly held back from recovery by a continuous drain on his vitality by some cause surgically removable, in which case there is a greater chance of benefit from an operation than from omitting it. In such case we should not hesitate to operate, but we should if possible operate under local anesthesia or local anesthesia combined with the use of gas and oxygen for general anesthesia. Still as Kinghorn states, and as my own experience shows, many more cases of pulmonary tuberculosis are operated on under ether, without subsequent exacerbation of the pulmonary disease than with a subsequent exacerbation.

One other most potent *plus* is brought out by Henry, namely nostalgia or homesickness. He might also have mentioned the restless, uneasy, undisciplined temperament, which renders any and all restraint horribly irksome. Both these conditions militate strongly against the cure of tuberculosis. To send a man away from home, who has only a few hundred dollars and who must after a few months worry about his means of support, is worse than useless. Peace of mind and absence of worry and lonesomeness are among the first requisites for the cure of tuberculosis.

Once more the gastro-intestinal *plus* of Dr. Henry. Forced feeding has gone by. The tubercular patient needs to be nourished to the uttermost. To that end the digestive organs should be given all they can do but no more. Contrary to Dr. Henry's opinion I believe many consumptives can digest more than they care to eat. Such cases may be helped by bitters. Others can hardly digest what they feel like eating. Why over-burden a tired horse or a weary digestion? Every set of digestive organs can digest x food. It is up to the doctor to find out how much x is and see that the patient gets it. With $x—y$, progress is needlessly slow, with $x + y$, the results are usually disastrous, far worse than with $x — y$.

Let us watch, therefore, that we do not introduce a *plus* into a case of tuberculosis. Yet, while thus watching, let us not fail to remove a *plus* already present, if there be a greater chance of curing the patient by so doing than there is by leaving it undisturbed.

H. S. G.

OBSTETRICS

The First Stage of Labor

Much has been written concerning the treatment of the second and third stages of labor, but the subject of first stage diagnosis and treatment is but infrequently mentioned.

The two to three hours of the second stage is soon forgotten, but the hours of apparently unavailing agony experienced during the first stage remain in her mind an unforgotten and unforgetable Gethsemane.

Most active intervention upon the part of the practitioner takes place during the second period of labor, while hemorrhages are most frequent during, or subsequent to, the third stage. It is presumable that this accounts for the fact that the first stage receives so little consideration at our hands.

Whatever may be said in favor of expectant treatment in any other branch of medicine, it has no place in the conduct of labor. Expectant treatment is at best but a confession of ignorance either upon the part of the attendant or upon the part of medical science. It means failure of accurate diagnosis, or lack of adequate treatment.

Accurate diagnosis is the key-note of all treatment, and in considering the first stage of labor an accurate diagnosis of the conditions existing is the prime requisite.

For the purposes of this article we will consider the first stage of labor as commencing with the onset of regularly defined pains and as extending until such time as the uterine os becomes flush with the vaginal walls.

The pain of this period is due to pressure of the presenting part against the nerves of the cervix, to dilation of the cervix and to pressure against the nerves of the uterine wall itself.

Continuous, lancinating, frequently repeated, "back-breaking" pains in the sacral region are almost diagnostic of O. P. positions.

Called to a woman in the first stage of labor, the first procedure should be that of a complete external examination. The woman should be on a hard bed in the dorsal decubitus, and the abdomen bared. The size and shape of the abdomen is noted especially in regard to the relation of the foetal tumor to the long axis of the mother's body. Scars, significant of some previous operation with their import of possible adhesions, are noted if present. The heart is examined and the general physical and mental condition of the prospective mother is given due consideration.

Now, with this accomplished, a careful bimanual palpation of the tumor is performed. Facing the lower extremity of the mother, the hands are applied to the foetal ovoid and gentle compression made of it between them in an endeavor to locate the position of the back and foetal small parts. In the majority of cases—about 80%— the back will be found at the mother's left. If the reverse is found, then bear in mind the fact that there is at least an equal chance of the condition developing into a posterior position with its possibilities of complications.

The back and small parts having been located, we next ascertain the location of the head and buttocks—not always easy if the part is not engaged. One scarcely ever mistakes a head for a buttock, but the reverse may easily happen. The external examination being completed with a thorough auscultation, and recording, of the foetal heart sounds, we may next turn our attention to the internal examination and what we may learn from that procedure.

Much has been written concerning the dangers of vaginal examination during the progress of labor, and many substitutes for it recommended. The fact remains that vaginal examinations are fraught with dangerous possibilities but they give us most accurate findings if properly performed.

Before the rupture of the membranes the danger is much less than subsequently. It is practically nil if the same preparation of the patient and the examining hand is insisted on as would be the case in a laparotomy. Carelessness is the undertaker's best friend. Shave the vulva, sterilize the skin, boil your gloves, use plenty of sterile lubricant—this last is important—and separate the labia before invading the birth canal.

The examining finger will now notice the rigidity of the perineum, the condition of the birth canal, the width and depth of the pelvis, the condition of the rectum as to whether empty or full, the shape, size and amount of *dilation* of the cervix, its "feel" as regards scars of dilatability and the presence or absence of the hydrostatic bag. If the head is

engaged and the membranes unruptured, we should note whether the head is acting as a ball valve, thus restraining the formation of dilating bag or not. The degree of engagement of the head, the prolapse of the cord, the attitude of the head,—all these should be noted at this first examination.

Whatever be the conditions, normal or otherwise, some form of treatment is indicated in all but a small percentage of the cases.

Whatever the abnormality discovered, now is the time for the attending physician to inform the husband of that fact, the dangers that threaten, and the possibilities of the labor. By this act one safeguards himself, reassures the family that the case is in competent hands and smooths the path that he himself must tread.

If the pains of the first stage are frequent and severe, and there is no need of hastening the process of labor because of this fact, then some form of sedation is indicated, otherwise we must expect a woman to enter the second phase of labor exhausted and in no condition to bring to her assistance the muscular effort that will be required. Twenty grains of chloral hydrate with twice that amount of bromide in combination, dissolved in warm milk and administered by rectum is a safe, effective measure of relief.

If the cervix is resistant and does not dilate but instead remains rigid and hard, remember the relaxing effects of atropine. ¼ to ½ grain of morphine combined with 1-100 grain of atropine will frequently give two or three hours of refreshing sleep, assist in the dilation of the os and conserve the strength of the mother.

Pituitrin is a substance usually recommended for second and third stage treatment. It finds a decided sphere of action in some cases of first stage inertia. Given a cervix that is not dilating, pains that are too frequent and severe for the stage of labor, no mechanical obstruction and where the examining finger, inserted during a pain, finds no bulging of the membranes, no advance of the head, and it is indicated. Give 5 minims deeply in the gluteal muscle and await results. If in one-half hour there are none double the dose and repeat.

Scopolamine (Roach) is of value in the prolonged first stage cases, following the initial dose of morphine and atropine. It shoud be administered in half ampoule doses after a lapse of from a half to one hour and may be repeated as required to keep the patient in a semi-"twilight sleep."

None of these sedatives should be administered within an hour of the expected birth of the child, but are first stage treatment alone.

If by our examinations we have discovered a faulty position or presentation of the foetus, we must consider the various possibilities before we attempt treatment of any nature. If correction at this stage is not good practice, then we must weigh the dangers incident to the ultimate outcome of labor, taking into consideration the strength, general condition and situation of the mother and make our plans accordingly. It may well be that this is the time to remove her to the hospital where she may be more safely cared for during the ensuing hours of stress and pain, or it may be that we will be forced to the alternative of immediate intervention such as the insertion of dilating bags preparatory to a version, or a forceps delivery, the consideration of a Cæsarian section or even the destruction of the child itself that one life may be saved where otherwise two would be lost.

If a dry labor is in progress, the insertion of a Voorhees bag to replace the one intended by nature, is attended with good results especially when some sedative is administered at the same time or just prior to its insertion.

If the head of the foetus is acting like a ball valve in restraining the fluids, thus preventing the formation of the hydrostatic bag, we may gently push it up, if not too deeply engaged, holding it firmly during the onset of the next pain and allowing the waters, held above, to assume their proper position and function.

Generally speaking, the condition that brings the patient to the door of the physician is pain. Were it not for pain we would have to close our doors. The physician who has the reputation of relieving pain need have no fear for the future of his practice. No measure that will accomplish the object of relieving pain is too small for consideration; no process of nature that has pain as an accompanying symptom is so common that it does not deserve attention and all possible relief. Study to make your parturient woman comfortable. Treat her as an individual, not as a "case"—and she will rise up and call you blessed.

R. E. S.

SPLIT PROTEINS IN HEALTH AND DISEASE

(*Concluded from February*)

It has been previously stated that proteins act irrespective of biologic origin. That plants metabolise proteins similar to animals is shown by Pettibone and Kennedy. They find that the transformation of reserve proteins in corn seedlings "takes place in a manner analogous to the transformation of protein food supplies in the animal organisms, * * * since it is clear that amino acids are present in the flowing sap." This much seems quite clear that protein fractionization, conveyance, and reconstruction is substantially the same process whether carried on in the animal or vegetable organism. The precise mechanism of protein reconstruction from circulating amino acid "building stones" is not yet fully understood either in the animal or vegetable kingdom. There are some eighteen "building stones" isolated. The size and shape, as it were, of these are fairly well known. The number of varying combinations is well nigh limitless as may be readily determined by a simple mathematical calculation. Each has a different chemical formula with one only, cystin, containing sulphur. Experiments have proven that cystin is an essential "building stone" as nitrogen balance cannot be maintained without its use. Lusk compares the amino acids of digestion to the letters of the alphabet. "When they are arranged together they can make many different proteins just as there are many different words in the dictionary.

"Suppose the word albumin were broken up by digestion into the letters a, b, i, l, m, n, u, then if these letters were absorbed they could be reconstructed into albumin again. Assume the same for the word globulin. Now if both albumin and globulin were to be formed from a common word, one would have to ingest a hypothetical substance called amglobulin, convertible into globulin if the letters a, m are abandoned to their fate, or into albumin on similarly exorcising the letters l, g. Carrying the analogy still further it is evident that if the letter b were not in the word amglobulin, neither albumin nor globulin could possibly be produced.

"This gives a key to the physiological value of different proteins. Casein, the principal protein of milk, contains practically all the various elemental forms of those structural materials which enter into the different proteins used to make up the framework of the machinery in the living cells.

"The most important letters of the protein alphabet are the following: glycocoll, alanin, valin, leucin, prolin, phenylalanin, aspartic acid, glutamic acid, serin, tyrosin, cystin, lysin, histidin, arginin, ammonia and tryptophan."

An amino acid is essentially a C.H.N.O. combination withh the element sulphur added in place of an H. atom in cystin. Adams speaks of them as "aminated fatty acids, i. e., fatty acids given partial basic properties by the addition of NH_2 molecules." Thus glycocoll is amino-Acetic acid $C_2H\text{-}NO_2$ acetic acid being $C_2H_3O_2$ Vaughn "considers the protein molecule as made up of base and acid, the acid being a poisonous substance and the base the non-poisonous substance." He likens it to sodium sulphate, which is relatively innoxious itself, but by spliting off a part of the base (that is an NH_2 moecule) an acid salt remains which is more poisonous, but when the base is entirely eliminated, you get a free acid which is very toxic. This very tersely suggests the double part played by the protein molecule. When intact a protein becomes one of the prime essentials of metabolism. But when partially or completely disrupted it becomes a source of danger to the organisms.

When intact as a prime essential or "building stone" it enter into the formation of each and very individual cell and forms a part of glandular secretions. Heredity determines the cell's habit of growth as to the number, kind, and special combination of "building stones" entering into a cell's make-up, and the peculiar composition of all glandular secretions. It is believed that the suprarenal gland requires a special aromatic group of amino acids only in extremely small quantities for the formation of epinephrin, and that this particular amino acid only enters into the human economy in its relation to this important "internal secretion."

Epinephrin is produced only in minute quantities, 1-100,000,000 parts, still it is indispensable to the life of the organism, as it acts as the "governor" to thyroid activity which has been said to be the "fly wheel" for amino acid metabolism. This action is clearly shown by Cannon's Research Studies on Ductless Glands. "We have found that the suprarenal

glands secrete epinephrin in times of great excitement, that there is an increased liberation of sugar from the liver so that glycosuria may result, that there is an abolition or prompt lessening of muscular fatigue, and that there is a very much more rapid clotting of blood. It is known also that epinephrin causes a redistribution of blood in the body so that it is sent away from the alimentary canal, whose activities are inhibited, to the heart, the lungs, the central nervous system and active skeletal muscles. It is known, also, that epinephrin causes dilation of the bronchioles, and it is known that it increases the number of red blood corpuscles per cubic millimeter—an increase which Lamson has shown occurs also to a marked degree in case of emotional excitement. * * * Furthermore, the action current of the thyroid appears if the nerves to the suprarenal gland are stimulated, an effect which does not occur if the suprarenal glands have been previously removed and which is delayed if the return blood from the abdominal cavity is delayed, until the blood is again allowed to flow. Thus a hormone relation between the suprarenal and the thyroid is clearly demonstrated.''

What has here been said relative to the inter-reactions between suprarenal and thyroid secretions applies equally well to several of the other ductless glands. While there has been a general knowledge relative to the inter-reaction of the internal secretions of the ductless glands it has not become evident until recently just how or by what means they took place. It seems quite clear now that the amino acids play an important, if not entire, part in such glandular inter-reactions.

Various chronic constitutional diseases are readily explainable upon the basis of normal cells having to vary their amino acid appropriation from the path set by heredity, because of adverse environmental influences. To revert to our alphabetical illustration it would be like trying to produce albumin by forcing the cell to appropriate an altered n amino acid.

Vaughn has shown that the base may be broken off in part or in whole, thus leaving a more or less toxic acid radicle. Suppose that only a portion of the base was removed because of some form of environmental influence in the n amino acid within the system, it would clearly be evident that albumin synthesized with this defective n amino acid molecule could be anything but a normal body protein. It is possible for just such a condition to exist, but perhaps more frequently the altered amino acid molecule is made by substitution rather than by total or partial loss. In fact, arterial sclerosis is said to be explainable in somewhat this way: that is, a part of the protein molecule is made up by a slight mineral substitution. This mineral substitution is the cause for the hardening of the arteries found clinically in arterial sclerosis.

It seems that other diseases will probably be explainable upon somewhat the same basis, the fact remains, however, that we must ever keep in mind the importance of protein metabolism.

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C. F. B.

In Memoriam

DR. HENRY D. HOLTON

Dr. Henry D. Holton, President of the Vermont State Medical Society in 1872, member of the Vermont State Board of Health from 1896 until his death, and its Secretary from 1900 until 1912, died at his home in Brattleboro, Feb. 12, 1917. The cause of death was malignant disease of the pancreas. For more than a year Dr. Holton had suffered from digestive disturbances. Repeated attacks of hiccoughs, lasting for several days, nausea, and inability to eat or assimilate food had more and more sapped his strength. Last October he was laid up for more than a week with these symptoms, but insisted on making the journey to the annual meeting of the American Public Health Association in Cincinnati. His final illness began at Christmas, after which he was unable to leave the house.

Henry Dwight Holton, A.M., M.D., was born at Saxtons River, Vt., July 24, 1838. His father, Elihu Dwight Holton, was of Puritan descent, and his mother, Nancy Grout, German. Both were of Revolutionary stock.

His preliminary education was obtained at Saxtons River Academy. He studied medicine with Doctors J. H. Warren of Boston and Valentine Mott of New York, graduating at the University of New York in 1860.

After six months of dispensary work in Brooklyn, he settled in practice in Putney, Vermont. His practice there was that of a general practitioner. In 1867, he removed to Brattleboro, where he spent the rest of his life. He early took a leading place in the profession of

the Connecticut Valley. His practice reached into Massachusetts and New Hampshire. He was long the best known surgeon of these parts and enjoyed the confidence of the profession over a wide range and to an unusual degree. Dr. Holton's professional activities continued until his election as Secretary of the Vermont State Board of Health in 1900. He gradually relinquished his practice thereafter and devoted himself to his official work and the many business and scientific organizations with which he was connected.

During his active professional life he was a member of the Connecticut River Medical Society and the Vermont State Society and served each as President.

He had always been a constant attendant at the meetings of the State Society and was its President in 1872. His practical interest in this Society, as well as in his fellow practitioners in the state, is indicated by his gift of a Trust Fund to maintain an annual lecture before the Society on some subject connected with Preventive Medicine.

Dr. Holton was called to the chair of Materia Medica in the Medical Department of the University of Vermont in 1873. He lectured there for thirteen years and for eighteen years, beginning with 1873, he served as a Trustee of the University and State Agricultural College.

He was also at the same time Medical Examiner for the Vermont Asylum for the Insane at Brattleboro.

Dr. Holton always took a most active interest in everything connected with the medical profession in this state.

His society connections were not confined to Vermont. He held memberships in a great number of medical and sanitary organizations, national and international. Through these he kept in close touch with the most progressive thought and personalities in our profession.

He joined the American Medical Association in 1864, was a Vice-President in 1880, and delivered the oration in State Medicine at the Baltimore meeting in 1895. He was active in the organization of the Pan-American Medical Congress and in the National Society for the Study and Prevention of Tuberculosis, and was a member of numerous other scientific organizations in this country and abroad.

Dr. Holton's name, not only in Vermont but elsewhere, will always be associated with preventive medicine. Indeed, he was one of the pioneers in the modern application of sanitary science to the public health. He joined the American Public Health in 1875 and early became prominent in the Council of that Association, including a membership drawn from the Dominion of Canada, Mexico and Cuba, as well as the United States. In 1892, at the first meeting of this organization held in Mexico City, he was elected Treasurer. He filled this position until elected to the Presidency in 1901. His prominence in this Association as well as in the American Medical Association gave him a national reputation.

Dr. Holton's connection with the activities of the State Board of Health gave him a state-wide acquaintance in Vermont. He was one of a committee of three of the State Medical Society, which in 1873 urged the General Assembly to establish such a Board. The report of this Committee asked for "favorable consideration for this measure, assured that in no better or more speedily remunerative way can the state ap-

propriate a portion of the people's money or more certainly fulfill its high mission, than in protecting its communities, old and young, from the approach or prevalence of contagious and infectious disease."

Later, as member of the House and of the Senate, he interested himself in the establishment and strengthening of the Board. The Board was finally established in 1886. Dr. Holton was appointed to it in 1896, and was its Secretary from 1900 to 1912. In the latter year he insisted on retiring from the Secretaryship, though he retained his membership to the end.

A man of untiring energy in everything he undertook, he devoted himself most unselfishly to the work of the State Health Board. He loved the work and believed in it. He had seen in his early country practice, the ravages of typhoid, scarlet fever, diphtheria and tuberculosis. He recognized the possibilities of preventive medicine as regards these infections. He familiarized himself with every community in the state and learned the individual needs of each. Schoolhouses, water supplies, sewage disposal, disease outbreaks, dairy conditions—no details of local sanitation escaped him. His services were constructive and fearless. He inspired health officers with some of his own energy and optimism, for he was always an optimist. He could criticize a local health officer or prosecute a delinquent man or community and still retain their respect. He never knowingly did an unjust act. His high notions of official duty were strongly tinctured with good common sense and the milk of human kindness. No finer tribute was brought forth by his death than an editorial in a paper published in one of the five towns, in which it became Dr. Holton's duty, acting for the Board, a few years ago, to condemn the public water supply and order a change. Among other things the Enosburg Standard says:

"In the death of Dr. Henry D. Holton, which occurred Monday, at the advanced age of seventy-eight years, Brattleboro and the State of Vermont have lost a man, whose long and unselfish service of a public character has been of inestimable value to both.

"Such public service as that rendered by Dr. Holton cannot be measured by dollars and cents and was never so measured by him. He gave, without thought of compensation, of his talent and energy, the memory of which and of the many beneficent results of his activities will live after him."

Dr. Holton served his state in other lines: he was a Commissioner to the Nicaraguan Canal Convention in 1892, and the following year to the Columbian Exposition. He was a delegate to the Republican National Convention in 1896. He was long President of the Vermont Branch of the American Red Cross Society, Surgeon to the Sons of Colonial Wars and member, and once President of the Vermont Society of the American Revolution.

It was fitting that the State Legislature, in session at the time of his death, should promptly adopt resolutions of regret and appreciation.

The Village of Brattleboro mourns a loyal and public spirited citizen. He was the progressive physician, the intelligent public servant, the astute business man, the kind neighbor.

During twenty-five years' service, as Member of the School Board (fifteen years as its Chairman) he was largely instrumental in building two of Brattleboro's largest school buildings. The Brattleboro Home for the Aged and Disabled, and the Austine Institution for the education of the deaf and blind, both of which owe their existence chiefly to

his industry and broad humanitarianism, were objects of his special care during his last years. He was Trustee from the first of the Brattleboro Free Library, and Moderator for twelve years of the town meetings. These are some of the evidences of the confidence of his neighbors of half a century.

The Vermont Phoenix speaks of him as a rare combination of skilled medical practitioner and keen business man.

He was for sixteen years President of the Brattleboro Gas Light Company; Director for many years and latterly President of the Vermont National Bank; and Director and Vice-President in the Fort Dummer Mills.

He gave generously and unostentatiously. A year's subscription to each of the 247 local health officers in Vermont to the American Journal of Public Health, and the endowment of the lectureship in the State Medical Society are instances of his benefactions for a long time anonymous.

His will contains bequests to the Austine Institution, the Home for Aged and Disabled, Leland and Gray Seminary in Townshend, of whose trustees he was President, the College of Medicine, U. V. M., and the Baptist Church in which he was a deacon.

His was a life of action. He was of a truth happiest when busiest. When personal bereavement came to him, his consolation apparently was in work. Age did not dull his interest in life's activities and only of late had disease lessened his vigor. His vigor of mind and body was the wonder of his friends. He persistently refused to grow old. Thirteen days before his death, the State Board of Health held a meeting in his sick room. In spite of physical weakness, his interest in the activities of the Board was unabated. All present believed he recognized that it was his last meeting with them, yet he took the same sane, practical view of the subjects discussed as always characterized his counsels.

Dr. Holton married Miss Ellen Hoit, Nov. 19, 1862. Mrs. Holton, for many years in infirm health, died in 1909. They are survived by an adopted daughter and two grand-daughters.

CHARLES S. CAVERLY, M.D.

DR. W. H. RANKS

Dr. Walter Hildreth Ranks, '97, of Shelburne died Tuesday morning, January 16, at 6:30 o'clock at the Mary Fletcher Hospital. He would have been 42 years old on April 3.

Dr. Ranks underwent a serious operation a week previous for ulcers of the stomach, from which his recovery was very doubtful. A second operation took place January 15, after which he failed rapidly. He is survived by a wife, who was Fanny Webster of Shelburne, a son Hildreth aged ten, and a daughter Helen aged six, also two sisters, Mrs. Charles Dearborn of Denver and Mrs. Hattie E. Demag of Auburn, Me. Dr. Ranks was married twice, his first wife who was G. Winnefred Edgecumb, of Burlington, died in 1904.

Dr. Ranks was born in Lisbon, Me., April 3, 1875. He attended Colby Academy, Maine, and Pembroke Academy in New Hampshire, and was graduated from the College of Medicine, U. of Vt., class of 1897. He practiced one year in Winooski, and in 1898 removed to Shelburne.

He took an active interest in town affairs, was health officer for many years, had been justice of the peace, superintendent of schools, and school director.

Dr. Ranks was a member of the Phi Chi fraternity. W. H. M.

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Original Papers

TARDY PAIN OF THE STOMACH

A. H. Bellerose, M.D.,
Rutland, Vt.

Read at the 103d Annual Meeting of the Vermont State Medical Society, October 12, 1916.

My only object in presenting this paper is to convey to you a few clinical data that will help you to recognize and to treat, with a fair chance of success, those disorders called tardy pain or hunger pain, which come one, two, three or four hours after eating, or just before meals, or even only during the night. The cause of these tardy pains is a spasmodic or organic stenosis of the pylorus, and the causes of this stenosis may be an intrastomachal disturbance like ulcer of the stomach, duodenum, ptosis, nervous gastric spasm, cancer, and so forth; or extra-stomachal, like gall bladder trouble, chronic appendicitis, renal calculi, enteroptosis and dislocated kidney. Now the causes of these causes? We are supposed to know a few of them, like traumatism of the stomach by improper food, improper mastication, causing hyperacidity, hypersecretion, hypermotility, infection of the mucosa from within and without, varicosity of the blood vessels of the mucosa, etc., and God is supposed to know the rest, and the research workers are trying hard to get it out of Him.

This paper appeals more to the general practitioner than to the specialist who has everything at his disposal to make a scientific and accurate diagnosis and therefore may advise his patient promptly what line of conduct he will have to follow.

We are often consulted by patients who complain of their digestion. The first thing to do is to make them tell, as far as they can remember, their state of health, what diseases they ever had, what is their work, what they eat and how they eat. During their story, if you are watchful you will gather much information that will give you the clew to the situation. You must ask them if they ever fainted or lost consciousness when having these pains or any other time, if they have vomited blood or vomited black matter, or if they ever noticed their stools were black — black as ink, you must explain, because very often they tell you yes; they take dark brown stools for black. You must ask them if they vomit when they have these pains, or if they make themselves vomit to get relief, because my experience is that these patients seldom vomit unless they make themselves vomit, or unless they have a complete stenosis of the pylorus or gastric nervous spasm and

then vomit part of the content, of the stomach. By this time I have my patient stripped—stripped, gentlemen—for a thorough examination, because I have found, to my sorrow, that very often when I made a mistake in diagnosis it was because I had only examined my patient partly—just the part I suspected to be in trouble—and I got into trouble myself. Then ask them how long they have been suffering with this particular pain. They answer, by chance, maybe two or three weeks, but unfortunately oftener it is two or three years and as long as twenty years. Ask them how long after eating they have this pain or distress or gone feeling in the stomach. When the answer is one to two hours after meals, suspect immediately ulcer of the stomach. When three to four hours after eating, suspect ulcer of the duodenum. When the answer is, "it wakes me up at night," suspect ulcer of the duodenum or deferred or reflex pain from down below in the coecum. Take note of these principal things, because you forget what the patient is telling you at the moment of the examination, more so when you do not see your patient until ten days after. Then ask if when they have these pains the ingestion of food relieves them. If the answer is yes, it makes us more suspicious of ulcer of the stomach. As you know many of these patients think they have those pains because they are hungry, and if they go and eat they feel relieved, and if they should say, "the food relieves my pain, but after a while," we suspect ulcer of the duodenum, because it takes longer to relieve pain caused by ulcer of the duodenum than ulcer of the stomach. A good test to find out if it is an ulcer of the stomach or duodenum is to have the patient, in the beginning of his distress, take a pint of warm milk. If the trouble is in the stomach, the pain will subside almost immediately, and if it is in the duodenum it will take quite a few minutes before the pain will subside, and if you have a regularity of the pain every day and about the same time of the day, it's a pretty certain sign that it is stomachal or duodenal ulcer. You may draw your own conclusion. If the pain is made worse by the ingestion of food, or not relieved by soda, put your thumb over the gall bladder and press hard enough to find out if the gall bladder is sore, which we often find it is, and we also find that the rectus muscles of the upper quadrant of the right side are somewhat rigid. We think then that the cause of the pyloric spasm which caused the pain is outside of the stomach, unless there is a complete stenosis of the pylorus, cancer of the stomach, or a nervous gastric spasm. In this case the pain may be relieved by emptying the stomach.* When making your thorough physical examination, take special pains in examining the eyes, the conjunctivae, to see if you have any sign of jaundice, also the color of the skin. You will also take special notice of the mouth and the teeth, which are very often the starting point of disorder of the stomach. Another point that you will have to eliminate, as far as you can, by physical diagnosis, is gall bladder trouble. By putting both your hands on each side of the patient, and putting your thumbs under the border of the ribs of each side in the direction of the

*The findings of this test have been proved to be correct in a number of cases at the operating table at St. Antoine Hospital, Paris.

gall bladder, and by pressing firmly and steadily, if you have a gall bladder disease, an inflamed gall bladder, with stone or without stone, you will produce quite a severe pain, which will often be felt under the shoulder blade of the right side, and at the same time a spasm of the rectus muscle. Another point that you will have to eliminate is dislocated kidney on the right side, which is also often the cause of such pain in the stomach. I don't need to tell you to take special care in examining the region of the appendix. Everybody is aware nowadays that we cannot examine a patient without putting our hand on the MacBurney's point. An examination which is seldom made is digital examination of the rectum, and it is a great mistake, because you may treat cases for a long time for different ailments until you are brought to make an examination of the rectum, and, to your surprise, you often find there the cause of the trouble; for one instance, you can feel there the enlargement of the retro-peritoneal gland and sometimes beginning of cancer of the sigmoid flexure, which, by reflex action, also causes those tardy pains. In making this examination, you must put your patient on the back, have the legs moderately flexed and the knees spread apart so as to relax the rectus muscles of the abdomen. In making your examination of the rectum, it is better to have your patient in the standing position. In this way you can reach farther and feel easier if there is any trouble in the pelvis.

THE LUNGS

In the beginning of a lung trouble you often have disturbance of the stomach, and you must assure yourself, by repeated examination of the chest, if you have not somewhere a tubercular focus. I have treated a patient with such a disorder of the stomach for three weeks before I discovered that there was in the lung a beginning of tuberculosis.

When you have examined and eliminated everything except the stomach, then, by percussion, you try to delimit the size and border of the stomach. It is relatively easy when the stomach is full, but when it is empty it is rather hard. To make it possible, dissolve the two powders of a seidlitz in two separate glasses of water and have the patient take the contents of one glass and have him take the contents of the other glass by small portions; in this way there is no danger of a large formation of gas that might cause trouble, but just enough to distend the stomach so you can find its dimension and its position. If you find a transverse stomach—by this is meant that the stomach is well over on the right side—you might suspect adhesions in the duodenal region. Then in a ptosed stomach sometimes you will find the tympanism as far down as the pelvis. Another way to find the dimension and the border of the stomach is to strike lightly with the tips of the four fingers in the region of the stomach when it is full, and when it is full you will produce the clapotage or splashing sound, and you may find this clapotage as far as the pelvis when you have a dilated or a ptosed stomach. This method is also a way to find if the stomach empties itself or not in due time. When a patient comes to you with a supposed empty stomach, and, by using this method of diagnosis, you produce a splashing sound, you may con-

clude that you have a retention and, in all probability, an obstruction of the pylorus. A way to find if the pylorus is permeable or not in these cases, is to have them empty out their stomachs completely with soda and water, and of this it takes five or six glasses—lemonade glasses—to do it thoroughly. Have them drink the soda, and after that have them lie across the bed on their stomach with the head hanging down on the edge of the bed. and. by mechanical means, if the soda doesn't do it itself, by mechanical means such as the fingers, a spoon or catheter, have them make themselves vomit, and have them repeat that until they are perfectly sure that the stomach is entirely cleaned out. Then at night you have them take an ordinary supper. An hour after, you have them eat ten to fifteen raisins with the seeds and the skin on, and then, an hour after that, give them an ounce of flavored castor oil. The next morning you give them a test breakfast composed of a pint of tea and two slices of fresh bread, and then you can draw the stomach content with a stomach tube if you want to make a chemical examination, or if you don't want to make a chemical examination you may give them again enough soda water to empty out the stomach, and if the pylorus is not permeable you will find the skins and probably the seeds of the raisins.

Now, coming to the treatment:

First, in severe cases, in cases of long standing, you put them right to bed and put them entirely on a milk diet. Some persons have an idiosyncrasy for milk. In these cases it is better to put about twelve grains of citrate of soda into each quart of milk. The way we generally do with these patients is to give them a pint of milk at 7 o'clock in the morning and have them take that milk with a spoon; at ten o'clock half a pint, and at one o'clock a pint, at four o'clock half a pint, and at 7 o'clock at night a pint, and nothing else except water as they desire it. An hour after each pint of milk—by this we mean after seven, one and seven—have them take a dram of a powder composed of equal parts of magnesia usta and bismuth subnitrate, and to this, if you suspect much spasm of the pylorus, add 1-12 of a grain of extract of belladonna, and have them follow this treatment for ten days. After ten days, if you have success, and if the patient feels an almost complete relief, put them on Diet No. 1:

Diet No. 1

1. Two quarts of milk a day.
2. Potage of Tapioca.
3. Rice-milk cooked for at least two hours.
4. Eggs, raw, soft-boiled or beat up in milk.

Meals should be of equal quantities and taken every two hours.

Directions for making the potage: Place a good handful of food to be used in a suitable dish and cover with three fingers of water, allow it to boil well, pour off water and add as much milk as there was water: allow it to come to a boil.

Of this diet they take a small meal every two hours, and they take a dram of the powder three times a day, morning, noon and night, one hour after meals. If the result is not satisfactory, in the morning have them take a teaspoonful of bismuth subnitrate in a wineglass of warm water, one hour before the first meal, and keep them on

the milk diet with the teaspoonful of powder in a wineglass of warm water an hour after the pint of milk. If the case is a moderately severe one, start them right on Diet No. 1, and have them take a teaspoonful of equal parts of bismuth subnitrate and the magnesia usta in a wineglass of warm water an hour after the morning, noon and night meal, and if the case progresses satisfactorily, at the end of ten days put them on Diet No. 2, with the same medical treatment, and keep these patients on that diet, if all pains have disappeared, for at least three months.

Diet No. 2

1. Two quarts of milk in 24 hours, boiled if necessary.
2. Potage of tapioca or vermicelli.
3. Porridge of oat-meal, corn-meal, cream of wheat or wheatena.
4. Rice, boiled for two hours with water or milk.
5. Macaroni, cooked in water till it becomes friable, then pour water out of it, and eat with unsalted butter.
6. Eggs, soft-boiled or raw.
7. Puree of potatoes, beans or peas.
8. Toasted bread with unsalted butter.
9. Baked potatoes with unsalted butter.

To be taken every two hours, and only one article at a time.

Directions for making potage: Place a good handful of food to be used in a suitable dish and cover over with at least three fingers of water, allow it to boil well, pour off water and add as much milk as there was water; allow it to come to a boil.

Patients should be kept on restricted diet for three more months, and should not be allowed to go on regular diet for at least a year. Now, sometimes the composition of these powders may have to be changed. If they should prove too laxative, increase the bismuth; and if they should prove too constipating, increase the magnesia usta; as for the belladonna, that may stay the same. In the beginning, to come back to these tardy pains, prescribe a powder composed of—

Bicarbonate of soda . . 8 grams.
Phosphate of soda . . 4 grams.
Sulphate of soda . . . . 2 grams.

Have them dissolve it in a quart of hot water and order them to take a wineglass of this solution whenever they commence to feel the pain, and to take a wineglass every five minutes until they feel better, if they have to take 4, 5, 6, or 7 glasses of it. Or you may use, to relieve these pains:

10 grams of bicarbonate of soda.
10 grams of magnesium oxide.

About a level teaspoonful in a wineglass of warm water.

In the meantime, if you find any ptosis of the stomach, intestine or kidney, order a good bandage (Curtis). The nervous gastric spasm is almost always caused by simple neurosis, a pure functional nervous disturbance, but sometimes it may be caused by reflex action from adhesions at a distance. In nervous gastric spasm the pain commences soon after meals. The food irritates the hypersensitive nerve terminations and causes an exaggerated gastric peristalsis, and very often produces a spasm of the pylorus, and the food is vomited with hardly any nausea, and when it does not cause a pyloric spasm, the stomach content is precipitated into the intestines and causes pain and ex-

aggerated intestinal peristalsis and one or more loose stools. This may be controlled by diet, and belladonna up to the physiological effect. Give tincture of belladonna, three minims, in a tablespoon of hot water, one hour before meals, and increase three drops every day until the trouble is relieved, or until you have your physiological effect, and to help to inhibit gastric peristalsis give, at the moment of the beginning of the pain, a level teaspoonful of equal parts of bicarbonate of soda and magnesium oxide.

Now, after a month of this treatment, if you have not cleared out your patient of his pain, you come to the conclusion that the trouble is outside of the stomach, or if inside of the stomach, it is cancer of the stomach, or an organic stenosis caused by an incurable ulcer of the stomach or duodenum; if outside of the stomach, gall stones or any kind of gall bladder trouble, with adhesions or chronic appendicitis; and you conclude that it is not a medical case, as for these disorders the medical treatment is impotent, and this class of patients belong to the surgeon specialist. If you want to go any further, if you are somewhat of a chemist, and you don't need to be very much of a one either, you may give your patient a test meal in the morning, and about thirty minutes after you draw the stomach content and examine it for free hydrochloric acid. Filtrate your stomach content. Take two drops of the stomach content and two drops of Günsburg reactive, put that in a small porcelain dish and heat it over an alcohol lamp or gas jet, or even on the stove, until all is evaporated, and if you have free hydrochloric acid it will leave at the bottom of the dish a deep purplish deposit. For lactic acid fill a test tube about 1-3 full of the filtrate and add an equal quantity of the following solution:

Perchloride of iron ...2 drops
Hydrochloric acid ....2 drops
Distilled water 100 grams. oz. iii ss, about.

This solution is practically colorless. If you have lactic acid in your filtrate, the mixture in the tube will turn a greenish yellow, and that makes us very suspicious of cancer of the stomach.

You may also try to find out the occult blood, but this blood test in the stomach is not very conclusive. A better test for occult blood is in the stools. This you can do with a very little trouble. You take a lump of stools as big as a small nut and you dissolve this in about two drams of water. To this you add about a dram of ether and you stir it up well with a glass rod. After that you add 8 drops glacial acidic acid, taking pains to stir it up carefully, let it rest and it will separate into two parts. You pour into a test tube about half a dram of the floating part, and in the meantime you make a fresh tincture of guaiac by taking a small piece of guaiac gum and with a couple of grams of alcohol dissolving it. Then you pour into a test tube about 8 drops of this tincture of guaiac, shake it up thoroughly and to this add 8 drops of dioxygen and stir it. Now, if you have occult blood in your stool this will turn a dark bluish color. Now, it is said that in ulcer of the stomach you will have occult blood in the stool intermittently, and in cancer of the stomach you will have blood continually; therefore, this

test, to be of any value for differential diagnosis, must be made every day for at least a period of 10 days. Now, another test to find out if you have an open sore in the stomach, either cancer or ulcer, is to take a piece of floss about three feet long, and at one end of it put a capsule and inclose in the capsule about 7 or 8 inches of floss. Have them swallow it with their supper at night, and tie the other end to the button of the night shirt, and have them come, or go the next morning and pull the thread out. If you have an open sore in the stomach, you will find, on different parts of your floss, a stain of blood.

Now, if you follow this line of conduct, you will make some mistakes, but your mistakes will be few, and they won't be mistakes crasse.

CHRONIC NON-TUBERCULOUS LUNG INFECTION

Nine cases diagnosed by experienced physicians as supposed tuberculosis in which the disease was proved to be non-tuberculous are reported by Albert H. Garvin, W. W. Lyall and M. Morita in the *American Review of Tuberculosis.* The clinical course in these cases begins with an insidious onset with subsequent development of periodic cough and expectoration and even haemoptysis during a state of rapidly waning health. All the symptoms of pulmonary tuberculosis may occur in chronic non-tuberculous lung infection. Physical signs as elicited in the upright position may or may not differ from those of tuberculous pulmonary infiltration. But while pulmonary tuberculosis is frequently a disease with a wealth of physical signs and a paucity of symptoms the reverse is true in chronic non-tuberculous lung infection. However, *examination in the inverted position* will often reveal the site of the infected area when it could not be discovered otherwise. In the differential diagnosis from pulmonary tuberculosis the points suggestive of chronic non-tuberculous lung diseases are: (1) longer duration and lesser severity of effect upon the patient, (2) better general health, (3) ninety per cent of lesions at the base and only ten per cent in the apices or upper lobes, the reverse of the conditions found in tuberculosis, and (4) physical signs less manifest than the symptoms.

The essential treatment is posture. Drainage of the basal lesion in the inverted position removes the muco-purulent sputum and relieves the pressure and absorption symptoms due to retention of the scretion. At least fifteen minutes four times a day is the minimum rule. Initial treatment may cause a brisk reaction with fever, but, as it is continued, rapid improvement of the general condition and diminution of sputum to a minimum follows. The prognosis in younger patients is excellent.

Bacteriological examination of the deepest or residual sputum showed B. influenzæ of low virulence in seven out of eight cases. In four of these it was the predominating organism and in the other three second in point of frequency. The persistence of the micro-organism places these patients in the carrrier group. The micro-organism may be the etiological factor in base lesions of the lung. Management of the cough and sputum as usually practised by tuberculosis patients prevents the dissemination of B. influenzæ.—*Am. Review of Tuberculosis.*

Under the leadership of Supervisor James Maxwell of the Vermont State Hospital at Waterbury, a pleasing evening was given Dr. Don D. Grout recently. About 100 of the employees of the institution were present. Dr. Wasson presented Dr. Grout a gold headed cane from the hospital staff. Supervisor Maxwell then presented a 23 jewel Hamilton gold watch and chain. The outer case of the watch has Dr. Grout's initials and inside the case is a suitable inscription which gives the date and shows that it was presented by the employees of the institution. To both of these the doctor touchingly responded, giving something of his experiences in the work of the hospital. Flash light pictures were taken, one of Dr. Grout, his staff and nurses and the other of the company.

HERNIA OF THE URINARY BLADDER

By Aimé Paul Heineck

(*Concluded from March 1917 Number.*)

In the strangulated cases, we note such contents as the following:—

Hemorrhagic fluid and the bladder, bloody fluid, gut and ovary; a loop of congested intestine and urinary bladder; congested bluish appendix epiploica; reddish-brown fluid, bladder-diverticulum and small intestine.

The wall of the herniated bladder-process may be normal, thinned or thickened. The herniated bladder-process may present the appearance of an empty or of a thickened hernial sac. Its cavity communicates with the cavity of the non-herniated portion of the bladder by means of a wide or narrow channel. It may be the seat of tuberculous disease, of carcinomatous disease. Calculi may be present in the herniated, in the non-herniated, or in both portions of the bladder.

Diagnosis and Differential Diagnosis

The existence of a hernia of the urinary bladder may be ignored, suspected or diagnosed before operation. The diagnosis may first be made at the time of operation, or not before one or more days after operation. Evidence of the bladder having been wounded may not be present until some time after the patient has left the operating table. Eminent clinicians have failed (even in operated cases) to recognize the true state of affairs previous to the autopsy.

Before operation, the following symptoms are suggestive of vesical hernias:—

1. Urinary disturbances: dysuria, two-stage urination, frequent urination, scalding urination.

2. A hernial swelling, pressure upon which causes a desire to urinate, and which increases in volume with urinary retention, and markedly diminishes in size with urination.

3. A hernial swelling, the size of which is increased by air- or water- distention of the urinary bladder.

4. A hernial swelling in which fluctuation is detected or in which a metallic sound can be introduced by way of the urethra.

5. A hernial swelling, in which, after easy reduction of most of the contents, there persists a small doughy mass representing the extruded part of the bladder.

During the course of a hernia operation, the following symptoms or signs are suggestive of vesical hernias:—

1. An unusual amount of fat in the neighborhood of a hernial swelling.

2. Difficulty in finding or in isolating the true hernial sac from the tumor mass.

3. The trabeculated appearance of the bladder muscularis.

4. Large-sized external hernial opening and the fact that hernias of the bladder are usually nearer the median line than true hernial sacs.

5. The occurrence of a second hernial sac is so rare that it is a safe rule to regard as the urinary bladder, until proved otherwise, any structure resembling a second hernial sac.

6. The pedicle of a herniated bladder-process leads down behind the pubic bone into the true pelvis; the pedicle of a true hernial sac leads to the general peritoneal cavity.

Passage of sound into a cystocele, cystoscopic confirmation of its existence, escape of urine following wounding of bladder (thirty-one cases), all these are conclusive signs.

Keep in mind that vesical hernias are frequently associated with intestinal and omental hernias.

Injury of the bladder may not be noticed at the time of operation, and be diagnosed, for the first time, several hours after operation by:—

a. Voluntary voiding or withdrawal by catheter of blood-stained urine.

b. Urine escaping from the hernial operative wound. This is usually preceded by the development and subsequent rupture or ancision of a urinary phlegmon.

c. Sepsis due to urinary extravasation.

d. Peritonitis due to escape of urine into peritoneal cavity.

Treatment

In discussing the treatment, we will limit ourselves to the consideration of femoral and inguinal hernias.

An operator not on his guard, may incise the bladder under the belief that he is opening a hernial sac. In operating upon recurrent hernias, guard against wounding the bladder. If isolation of the hernial sac from the inner lower portion of the ring be difficult, involvement of the bladder is to be suspected. Avoid this injury by securing a good exposure of the operative field. The more exact the stripping of the sac, quite up to the deep epigastric artery, the more likely will cystocele, especially in its earlier stages, be discovered.

Vesical hernias can be produced by traction upon the sac and efforts to place the ligature high up may, if one be careless, result in catching in its bite the bladder-wall.

The bladder was accidentally injured in sixty-eight of the cases under consideration. In thirty-one, urine escaped into the operative field at time of operation.

Should the bladder be incised or otherwise injured, carefully suture it and provide appropriate drainage. Immediate closure of the bladder wound is of primary importance. It is effected by two, in some cases, by three layers of interrupted or continuous sutures. Introduce your bladder-sutures so as to include all the layers of the bladder-wall, the mucosa excepted. Needless to say that only absorbable suture-material is to be employed. Even if the bladder be not opened, but merely injured, it is safer to fortify the weak spot by the introduction of a few catgut sutures.

The herniated urinary bladder-process may be:—

a. Injured in attempts to carefully and cautiously separate surrounding adhesions. Not only must one be careful as to sac-contents, but also as to contiguous tissues.

b. Torn accidentally in trying to separate it from the hernial sac. The herniated bladder-process is more liable to be injured if it be the seat of such changes as are incident to strangulation.

c. Punctured or pricked in suturing walls of hernial canal, in closing hernial orifice.

d. Incised or ligated and cut off, being mistaken for a hernial sac.

Resection of the herniated bladder-

process is indicated only if it be very much attenuated, necrotic or the seat of other serious degenerative changes. Resection is to be followed by suture of the bladder-wound. If a calculus or calculi be present in the bladder protrusion, incise the bladder-wall, remove the foreign body, and repair vesical wound secundum artem. As a routine procedure, resection of the bladder protrusion is not to be recommended. It was performed only in twelve of the reported cases.

If the bladder protrusion be apparently normal, free it from surrounding adhesions, if any be present, and then reduce it into the abdominopelvic cavity. As a routine procedure, bladder repair, bladder resection and bladder reduction are always to be supplemented by refection of the abdominal wall. After isolation of the herniated bladder-process, supplemented by the repair of any injury which it may have sustained during the course of the operative procedure, we advise that the bladder be reduced into the abdominal cavity.

Vesical hernias have been successfully operated for radical cure without anesthesia, under local (cocaine, infiltration), spinal and general surgical anesthesia: nitrous oxide gas and oxygen, chloroform and aether (the majority of cases).

For inguinal hernias, the Bassini operation, with or without transplantation of the cord, seems to be the operation most universally employed; it was employed forty-one times. Czerny's, Andrews', Ferguson's, Halsted's and Kocher's type of operation were each employed once. Numerous other methods were employed. Various types of operations were employed in the femoral hernias (Berger, Coley, Lotheissan's operations, etc.). Some operators closed the hernial sac by a ligature, other by a purse-string suture, others by suturing the edges. In eighteen cases, it is stated that the hernial canal was freed of fatty tissue.

In all the cases in which the herniated bladder-process was not injured, in practically all those cases in which it was injured and repaired or resected and sutured, the organ, after being freed from surrounding adhesions, was returned into the abdominal cavity. Bernhard, in one case, after suturing the bladder, fixed it to the lower angle of the abdominal wound.

Operators are not agreed as to the advisability of using a permanent catheter after bladder suture, nor as to the time during which this permanent catheter, if used, should be left in the bladder. Some leave it in one day; some, two days; some, three days; some, four days; some, five days; some, six days; some, one week; some, two weeks.

Drainage extending to the bladder wound is a prudent provision against leakage from the sutured bladder. Many operators prefer, after bladder suture, to leave the abdominal wound open at its lower angle, and to close it as soon as conditions warrant.

If the hernial swelling contains, in addition to a bladder-process, a knuckle of gut, a piece of omentum or some other viscus, the indication is first to free and reduce the bladder-process, and then carefully isolate, reduce or resect, if indicated, the other hernial contents. In the absence of contra-indications, all hernial sac-contents, sac-fluid

excepted, are to be returned into the cavity from which they have escaped.

A deviation from this rule is indicated in cases:

a. In which herniated omentum has undergone such inflammatory, cystic or other changes, that, if returned into the abdominal cavity, it might act as a foreign body.

b. In which the herniated gut or omentum is gangrenous or of doubtful viability.

c. In which the hernial contents are in such a pathological state that their return to the abdominal cavity would jeopardize the patient's life.

The treatment of the sac-contents does not differ from that which obtains in hernial swellings in which no bladder-process is present; if those contents are injured by the surgeon, the injury calls for repair.

Results

Operations for the radical cure of vesical hernias have practically no mortality. What mortality occurs is due to concomitant circumstances: extreme old age, great debility, shock, long-standing strangulation and unrecognized bladder injuries.

One of these hernias was a dissecting-room discovery; this leaves one hundred and sixty-three hernias occurring in one hundred and fifty-eight subjects. There were twelve deaths; all the other patients recovered.

Operations for the radical cure of vesical hernias are rarely followed by disagreeable sequelae. In thirteen cases, a urinary fistula complicated convalescence. These urinary fistulae usually closed spontaneously. One can, if he so desires, close these fistulae under cocaine anesthesia.

A careful study of the cases in which death occurred shows that operations for the radical cure of vesical hernias have no mortality *per se,* if all bladder injuries be suitably repaired. In bladder hernias, recognized either previous to or at time of operation, before closure of the abdominal wound, recovery is rapid and uneventful.

Conclusions

1. The urinary bladder, in part or in its entirety, may escape from the abdominal and abdominal-pelvic cavities through any of the uncommon or common hernial orifices of the lower abdominal wall.

2. Hernias of the urinary bladder occur in both sexes, at all ages, and in all races. They are congenital or acquired, recurrent, recent or of some standing; almost always unilateral, very rarely bilateral. Like other hernias, they vary in shape, size, rate of growth and in the discomfort and disability which they entail.

3 In the female, vesical hernias occur in nulliparae, primiparae and multiparae; they occur previous to, during, or after gestation and between gestations. They neither interfere with gestation nor disturb parturition.

4. According to anatomical site, vesical hernias are designated as hernias of the linea alba, of the obturator, femoral or inguinal regions. Anatomical relations justify the further subdividing of the two latter types into interstitial or intra-parietal, direct or indirect, complete or incomplete, pudendal or scrotal.

5. The relation of the herniated bladder-process to the serous membrane lining the peritoneal cavity is well expressed by the terms: Intra-peritoneal,

para-peritoneal and extra-peritoneal. These designations are serviceable from the viewpoint of etiology, symptomatology and treatment.

6. According to clinical manifestations, hernias of the urinary bladder are reducible, irreducible, inflamed or strangulated.

7. A vesical hernia may be single, double, or one of two or more hernias located on the same or opposite sides of the body, having dissimilar contents, and presenting like or unlike anatomical and clinical characteristics. Thus, the same patient may present an inguinal cystocele and a femoral epiplocele, a reducible femoral vesical hernia and an irreducible inguinal intestinal hernia. Case reports of an inguinal vesical hernia on one side coexisting with an inguinal enterocele, epiplocele or entero-epiplocele on opposite sides of the body are not uncommon.

8. As etiological factors in the causation of vesical hernias, the following are foremost:

a. All conditions that tend to increase intra-abdominal pressure.

b. All conditions, congenital or acquired, that weaken the abdominal wall.

c. All diseases of the lower urinary organs that impair the expulsive force of the bladder or abnormally hinder the outflow of urine.

d. Pre-existing hernias and hernial sacs of pre- or post-natal origin.

9. The pre-operative signs and symptoms may be unmistakable, vague or absolutely wanting. In addition to such symptoms as are common to all other hernias, vesical hernias present peculiar suggestive and positive manifestations of their existence. Chief among the former are such disturbances of micturition as the following: frequent, painful and difficult urination, vesical tenesmus, urgent desire to urinate caused by pressure upon hernial swelling and two-step urination. Chief among the positive manifestations are: A hernial swelling increasing in size with urinary retention and decreasing with urination; increasing in size with air or water-distention of the bladder and decreasing upon withdrawal of these agents; passage of a sound into the herniated bladder-process by way of urethra and bladder; cystoscopic demonstration of the vesical orifice of the herniated bladder-process.

10. The herniated bladder-process may be the sole content of the hernial swelling, or merely one of the associated contents. In addition to a bladder-process, a hernial swelling may contain a part of one or more of the following organs: Ureter, Fallopian tube, ovary, appendix vermiformis or appendix epiploicae, omentum, and small or large intestine.

11. The herniated bladder-process may be free or adherent to surrounding tissues or organs, structurally normal, or present degenerative, inflammatory or neoplastic changes; may be the seat of atrophy, hypertrophy, catarrh, gangrene, tuberculosis or carcinoma, and may or may not communicate freely with the general vesical cavity. The herniated process of bladder may contain one or more calculi.

12. The vesical hernia may be the sole existing anomaly, or it may be one of two or more, congenital or acquired, pathological states, having or not having any relationship of cause or effect to the hernia (cryptorchism, vaginal

cystocele, prolapsus uteri, prostatic hypertrophy, etc.).

13. Truss treatment for hernias of the bladder is not curative, is often productive of discomfort and may injuriously affect the structure of the bladder-wall.

14. In patients over ten years of age, all hernias, irrespective of anatomical site, clinical condition or contents, should, in the absence of a constitutional state contra-indicating operations of election, be subjected to an operation for radical cure.

15. Clinical conditions so closely simulating hernias of the urinary bladder that a positive diagnosis without operation appears impossible, should be subjected to operative treatment. Only benefit can be derived from adherence to this rule. A diagnosis is established and a cure is effected.

16. All hernias of the urinary bladder, irrespective of sex, age or social condition of patient, irrespective of size, shape, anatomical site or clinical type, call for operative treatment. Operative treatment is free from danger and is curative. The only contra-indications to operative treatment are: Extreme old age and the co-existence of a pathological state or states contra-indicating operation of election. Operative treatment is the only rational treatment of hernia in the adult.

17. Operative intervention is indicated in all incarcerated and in all strangulated hernias of the bladder.

18. In all hernias, the ideal time for operation is previous to the development of degenerative or other pathological changes in the herniated organ or organs and previous to the occurrence of any of the various complications incident to hernias.

19. Women who suffer from any form of hernia should be carefully watched before, during and after their confinement, so as to prevent or rather minimize any undue strain upon weak regions of the abdominal wall. Those women, at the close of lactation or towards the end of the first year following their confinement, should, in the absence of contra-indications, be subjected to an operation for radical cure of the hernia. In the female, the inguinal rings are comparatively small. They can without inconvenience to the patient be closed.

20. The most popular and efficient modern hernia operations permit a full view of operative field and allow such a careful examination of hernial rings, canals, and surrounding structures, that a prolapsed or herniated bladder-process rarely escapes detection.

21. In inguinal and femoral hernia operations, after careful opening and isolation of the sac, see that the latter consists preferably of peritoneum only, and that its neck be freed from all other structures. Neck of sac should not be twisted, as by so doing the bladder is drawn towards the hernial opening and is liable to be included in the ligature. Necrosis and peritonitis result therefrom.

22. In the course of a hernia operation, if, after opening the sac and reduction of its contents, there appears a second sac, it is not to be opened, unless the introduction of a sound in the bladder shows the complete independence of this sac from the urinary reservoir.

23. In hernias of the urinary bladder, first expose and free the herniated

organ or organs, and then reduce it into the abdomino-pelvic cavity. Follow this by suppressing the hernial sac if one be present, and then strengthen, according to an approved method, the weakened hernial area. Resection of the herniated bladder-process is only exceptionally indicated. When performed, it calls for immediate reconstitution of the urinary reservoir.

24. During hernia operations, the wounding of the urinary bladder can, to a large extent, be prevented by careful operating and by keeping in mind that this clinical entity occurs.

25. Wounds of the urinary bladder inflicted during the course of hernia operations, give a good prognosis if they be immediately repaired and if post-operative treatment be instituted appropriately. In the repair of bladder-wounds, two or three layers of continuous or interrupted absorbable sutures give satisfactory results. Bladder suturing is to be followed by refection of the abdominal wall of the hernial area.

26. If within twenty-four to forty-eight hours after a hernia operation on a healthy subject the catheterized urine contains blood, determine the origin of the blood. If a bladder-injury be present, open the hernial operative wound or laparotomize or do both and repair the injury.

27. The mortality of operations for the radical cure of hernia, if performed at an opportune time by a rapid and skillful operator competently assisted, is practically nil. Coley operated on 1000 consecutive cases of hernia without a single death.

28. The operative treatment of hernias of the urinary bladder is highly satisfactory.

IMPLIED WARRANTY IN THE SALE OF FOODSTUFFS.

An interesting decision of the Supreme Judical Court of Massachusetts is published in this issue of the Public Health Reports, page 3477. A Massachusetts man and his wife were made ill by eating pork, and they brought suit for damages against the dealer who sold the meat. The court stated the facts as follows: "His wife [the wife of the purchaser], acting as his agent, left to the defendant the selection of the meat, and paid for it at the current price for sound, wholesome pork chops. * * * The defendant Freshman undertook to make the selection so left to him. The meat was cooked, and was eaten by the plaintiff and his wife, and both were made sick."

The law of Massachusetts applicable to the case was stated in the opinion as follows: "Where the buyer at a shop relies on the skill and judgment of the dealer in selecting food, and it is made known to the dealer that his knowledge and skill are relied on to supply wholesome food, he is liable if it is not fit to be eaten; while, in case the buyer himself selects provisions, the dealer's implied warranty does not go beyond the implied assertion that he believes the food to be sound."

The court decided that the husband was entitled to damages, but the wife could not recover because "the only sale was that made to her husband through her as his agent," and "there was no contractual relation, and hence no warranty," between her and the defendant. —*Public Health Reports, Dec.* 22, 1916.

Vermont Medicine

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Rutland, Vt., April, 1917.

Editorials

HEALTH INSURANCE

Some years ago there was inaugurated in Basle, Switzerland, an organization called the "International Association for Labor Legislation," which quickly established branch associations in sixteen foreign countries, among them our own. New York became the headquarters for the American branch which has become known as the "American Association for Labor Legislation." With its other activities and purposes we are not immediately concerned, but it has begun a campaign for Health Insurance in this country with which we have a good deal to do and which will become a matter of grave interest to us if it has not already done so. This movement has been begun with an impetus and a momentum which vindicate the skill with which it has been managed. Already it has succeeded in introducing bills providing for Health Insurance in twenty states of our country, and has elicited a very marked sympathetic response alike from the general public and from the medical profession. Let us consider the purpose, scope and history of the movement for Health Insurance.

It began in 1806, in Russia. In that year the Czar, Alexander I, promulgated a decree "requiring proprietors of mining and metallurgical industries to provide hospital accommodations for sick or injured employees." This was made to apply to all such companies as employed 1,000 operatives or more in their works and mines. Sixty years later, Alexander II extended the application of this decree to all the great industrial organizations throughout the Empire, compelling them to provide a bed for each 100 employes and to employ a resident physician and a suitable number of nurses, while every factory which employed women must make similar provision for obstetrical cases. The state made no contribution toward the expense of these institutions, which were sustained entirely by the employing companies, but the results were so excellent that many municipalities adopted the system of their own accord and it finally developed into "the great system of state medicine" which we are informed obtains today throughout that populous empire. With some modifications and some additions it soon extended to ad-

jacent states, and became compulsory in Germany (1883), Austria, Serbia and Great Britain (1912), and was adopted in the form of voluntary Health Insurance in France, Sweden and Switzerland. By a pardonable euphemism, it is called Health Insurance, when it should more accurately be called Sickness Insurance, in the same way that a provision in the case of death is called Life Insurance.

Expert and amateur actuaries have busied themselves in the interest of social or community science to ascertain the number of sick persons in a given population—that of the United States, for instance—and the sum lost by such sickness in the form of wages calculated by the week, the month and the year. Such figures are of no importance whatever, unless they include also the value of labor withdrawn from productive pursuits by indolence, vagrancy, wealth, drunkenness, crime and imprisonment in penal, corrective and other institutions, but even in their limited field of observation the results vary with the compilers of the statistics. Still, it is true that sickness causes a temporary loss of employment attended with a loss of wages and an increase of expense. How is it proposed that the sick shall be indemnified?

We have before us a copy of the bill introduced before the New York State Legislature, described as the Mills' Bill and entitled "An Act to establish a system of compulsory insurance to furnish benefits for employees in case of death, sickness and accident, not covered by workmen's compensation, and for their dependents in case of sickness and accident, and to furnish maternity benefits, and to provide for contributions by employers, employees and the state, and to create the health insurance commission"; and we have read with interest the comments on the Massachusetts bill, called the Doten Bill, by Dr. Mongan in the January 4th issue of the *Boston Medical and Surgical Journal.* Moreover, our medical exchanges have for several months been publishing papers, letters and addresses on the subject of Health Insurance. From all of these sources we have gathered the facts that are brought out in the present article.

The state is to be divided into districts, each of which shall contain five thousand persons subject to compulsory insurance, and all persons are declared to be so subject whose wages are $25 a week or less. Beginning with the lowest class, those who work for less than five dollars a week, the bill provides that the employers shall pay 80% of the insurance fund and the state 20%; between six and seven dollars (wages) the employer pays 64%, the state 20% and the employee 16%; between eight and nine dollars (wages) the employer pays 48%. the state 20% and the employee 32%. At nine dollars to twenty-five dollars (wages) the employer pays 40%, the employee 40% and the state 20%. Above twenty-five dollars of weekly wage, the employee is beyond the operation of the law. It is estimated that the cost of insurance to the employee will be at the least 5% of his weekly wages and may easily exceed that estimate. Thus a man whose wages are twenty dollars a week will pay fifty dollars a year for health insurance and the corresponding amount of his weekly, fortnightly or monthly wage will be taken from his pay envelope every pay

day, amounting to a tax which must be paid before anything else and which the law compels the cashier or pay clerk to deduct before the wage is paid. With all the economic details of the law's operation we are not now concerned except to note that the bill provides for an army of commissioners (not to exceed 100), directors (not to exceed eighteen), councilors, secretaries, clerks, actuaries, accountants and other officers in proportion, who shall receive salaries from five dollars a day to $6,500 a year.

The salaries that the Mills' Bill provides for are $6,500 a year for the chairman of the health insurance commission, and $6.000 for each member of the Commission, all of them to be appointed by the Governor, while the secretary is to receive a salary of $5,000 a year, all of them "to be entitled to their actual and necessary expenses while traveling on the business of the Commission." In addition to other expenses of administration, the Commission shall have its main office in the "Capitol" and may establish and maintain branch offices in other cities of the state as it may deem advisable. Thus several highly salaried offices are to be created by the state to become the spoil of politicians and labor experts and trade union agitators under the pretext of compulsory assistance to the poor whose condition will be in no wise improved by all this superfluous outlay.

Its close connection with organized labor is shown not only by the name and character of the association which has initiated the movement abroad and has introduced it into the country and sponsored it here, but by the provision of §79 of the Mills' Bill:—

"A person subject to insurance shall become a member of a labor union or a benevolent or fraternal society on being accepted by it, and shall cease to be (available for health insurance) on his resignation or expulsion, except as otherwise provided by law or in the constitution or by-laws" (of the labor union).

Provision is made for so-called "voluntary members," toward whose sickness indemnity the employer pays nothing, the state 20% and the "voluntary member" 80%, which means that the state pays 20% and no one else pays anything. In fact, it is ridiculous to say that the insured "pay" anything in the whole illusory list of indemnities; he only receives so much less insurance as the amount of his percentage contributions.

But apart from the economic aspects of health insurance and of greater consequence to us as physicians is its effect on the profession of Medicine. The Doten Bill and the Mills' Bill alike place in the hands of the Governor of the state the appointment of the three members of the Health Commission; the Mills' Bill stating that one member shall be a physician and the Doten Bill making no such provision. The presence of a physician is not then considered necessary on the Board. At best he is only a minority member and without any power. The profession of Medicine is only represented among the hired servants of the Commission, for in the Health Insurance Council of twelve members, there is no representative of Medicine, and while the Medical Advisory Board is to be composed of physicians, six of whom are to be "chosen by the Medical Society of the state of New York, two by the Homeopathic Medical Society of the state of New York,

and two by the Eclectic Medical Society of the state of New York," the chairman of the Board being the State Commissioner of Health, ex-officio; yet the powers of this Board are confined to the function of transmitting reports to the Commission. At least we cannot discover in the Mills' Bill any other part for them to play. This emphasis on the political features of Health Insurance rather than on its medical features in a law whose only fundamental purpose is the medical treatment of the sick, is in reality a severe and unjustifiable arraignment of the medical profession with whom the appeal of sickness is indeed never neglected but becomes irresistible when re-enforced by the appeal of poverty. The private and personal relations of a physician with his poor patients are offered and accepted with a delicacy that does not offend their self respect, but that delicacy of charity ceases when these relations are registered in a public document and become a part of the records of public offices.

It is the effect of the Health Insurance on the profession of Medicine, however, that strikes us as especially and distinctly offensive. A panel of physicians is selected among those regularly recognized as being legally entitled to practice Medicine, and from this panel the patients are permitted to select their physician. There is thus instituted a distinction between those who are chosen as the panel and all other physicians. The members of the panel become the servants of the Commission and the amount of their fees is fixed by the State officers. These fees are estimated at a rate of thirty to forty cents a visit; the amount of the charges for medicine and for other treatment is to be approved by the public officers of the Commission before the charge is allowed. "In case the fund or society is unable to furnish the whole or any part of the benefit provided in this section" (§14, entitled "Medical, surgical, dental and nursing attendance and treatment") "it shall pay the cost of such service actually rendered by competent persons *at a rate approved by the Commission.*" The Commission selects the panel, specifies the hospitals, dispensaries and nursing organizations, drug stores, etc., which shall be recognized as a part of the necessary outfit of treatment and supplies, and in this manner organizes under its entire control all these means of treatment, which become thus set apart as pertaining to the state organization of Health Insurance.

Thus both society and the profession of Medicine become separated into classes. Society becomes divided into the Poor and the Non-Poor (however these last may be designated). Poverty is thus at last legally defined as including all who earn $1,200 a year or less, and the Poor are paraded in a public record or series of records. But they actually become paupers to the extent that they receive state aid in money to enable them to meet their obligations. The profession of Medicine is also split into classes, and those who constitute one class become state dependents, are enrolled in a panel and are subject to the terms and conditions imposed by a non-medical commission, though we do not find that, however inadequate their income, they are entitled to share in the indemnity offered to their patients. But this panel of physicians becomes a part of a labor organization (of course, only as hired servants) and they soon degen-

erate, in other countries as a matter of fact, into a branch of the labor union. Indeed, in Germany, strikes are frequent among them. Dr. Mongan says that "up to the year 1911, there have been 1,022 doctors' strikes due to a difference of opinion between the companies and the physicians as to the physicians' remuneration, and these conflicts have been very serious." When these things are considered, we must conclude that a part of the purpose of the Mill's Bill is not expressed in its long title, and that there should be added, "and to secure the degradation of the profession of Medicine."

Now, this movement for so-called Health Insurance is not a propaganda, it is a wide and well-managed campaign. With its economic aspect we have little to do, as we have said, but its probable estimate of maintenance deserves a word. The sick benefit being calculated as two-thirds of the patient's usual wages and one-fifth of this two-thirds being payable by the state, it was estimated that in Massachusetts the cost would run anywhere from *four to twenty-four million dollars*, and that the Wisconsin estimate of its cost to the workingman as 4 to 5% of his income for premiums would be more accurately estimated at 10%, and this payment, as is usual with the methods of all labor unions, would be scrupulously and ruthlessly exacted. It is well that we as citizens of Vermont should know in advance what Health Insurance is and what it involves before the time comes—as come it will—when this subject shall be presented with all its specious promises, before the Legislature of our own state.

From the Council of Pharmacy and Chemistry

During February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Merck and Company:

OPTOCHIN.
OPTOCHIN HYDROCHLORIDE.

E. R. Squibb and Sons:

TABLETS SODIUM CHLORIDE AND CITRATE-SQUIBB.
(Dr. Martin H. Fischer.)

NEW AND NONOFFICIAL REMEDIES

Tabellæ Dulces Aristochin (Western), 1 gr.—Each tablet contains aristochin 1 grain with cocoa, sugar and saccharine as vehicles.

Tabellæ Dulces Heroin (Western, 1-100 gr.—Each tablet contains heroin 1-100 gr. with cocoa, sugar and saccharine as vehicles.

Tabellæ Dulces Novaspirin (Western), ¼ gr.—Each tablet contains novaspirin ¼ grain with sugar, starch, liquid petrolatum, saccharine, curcuma and oil of lemon as vehicles.

Tabellæ Dulces Tannalbin (Western), 1 gr.—Each tablet contains tannalbin 1 grain with cocoa, sugar and saccharine as vehicles.

Tabellæ Dulces Terpin Hydrate with Heroin (Western), 1-100 gr.—Each tablet contains terpin hydrate ½ grain, and heroin 1-100 grain with cocoa, sugar and saccharine as vehicles. Western Chemical Company, Hutchinson, Minn. Accepted for the Appendix to New and Nonofficial Remedies (*Jour. A. M. A.*, Feb. 10, 1917, p. 461).

PROPAGANDA FOR REFORM

Glycerophosphate Comp. Ampules, 1 Cc., Squibb.—The Council on Pharmacy and Chemistry refused recognition to Glycerophosphate Comp. Ampuls, 1 Cc., Squibb, each said to contain sodium glycerophosphate 0.1 gm., strychnin cacodylate 0.0005 gm., and iron cacodylate 0.01 gm., because the name did not indicate the potent ingredients and because the admin-

istration of a mixture of sodium glycerophosphate, strychnin cacodylate and iron cacodylate is irrational. In recognition of the Council's conclusion, Squibb and Sons state that the sale of the ampules has been discontinued. This co-operation in the work of the Council on Pharmacy and Chemistry is gratifying (*Jour. A. M. A.*, Feb. 3, 1917, p. 388).

Emetine in Dysentery and Pyorrhea.—Emetine is accepted today as an almost ideal specific against amebic dysentery. Experience indicates that by its use abscess of the liver can be prevented and even cured. When a differential diagnosis between amebic and bacillary dysentery cannot be made, emetine may be of diagnostic value because improvement follows from its use if the case is amebic. In neglected cases and some other forms of the disease the emetine treatment may fail of complete success. As a direct cure for pyorrhea emetine seems to have failed, not because it does not act on the ameba which are found in the pyorrheal pockets but because pyorrhea is not caused by ameba (*Jour. A. M. A.*, Feb. 3, 1917, p. 374).

The Phenolsulphonephthalein Test.—It has been assumed that excretion of less than 60 to 80 per cent. of phenolsulphonephthalein in 2 hours is an indication or renal insufficiency. It has been found, however, that in certain experimental conditions, phenolsulphonephthalein may be destroyed in the body and therefore not appear in the urine although the kidneys function normally. If this condition is found to occur in clinical cases the interpretation of the tests may have to be limited to this: an excretion of 60 to 80 per cent., i. e., a positive result, within two hours after the injection of the phenolsulphonephthalein is evidence of satisfactory renal activity (*Jour. A. M. A.*, Feb. 3, 1917, p. 379).

The Willard Pyorrhea Treatment.—After defrauding the public of amounts estimated by the federal investigators at $75,000 a year by means of a fake cure for pyorrhea, F. W. Willard, M.D., D.D.S., has been denied the use of the United States mails. The business of the Willard concern, apparently owned by Oren Oneal, consisted of a mail-order plan of a so-called home treatment for pyorrhea or Rigg's disease (*Jour. A. M. A.*, Feb. 10, 1917, p. 477).

Sargol.—The case of the United States against Wylie B. Jones and H. E. Woodward, proprietors of "Sargol" came to an end, Jan. 30, 1917, after a trial lasting thirteen weeks. Jones was fined $20,000 and Woodward was fined $10,000. Sargol was a nostrum of the get-fat-quick variety; as an alleged "flesh builder" it was advertised extensively and intensively by its exploiters (*Jour. A. M. A.*, Feb. 3, 1917, p. 381; Feb. 10, 1917, p. 468; Feb. 24, 1917, p. 642).

Fate of Trypsin in the Stomach.—Judging by recent experiments, it appears that the proteolytic enzyme of the pancreas isolated as trypsin is capable of withstanding a rather long digestion in presence of hydrochloric acid and pepsin provided that sufficient protein is present to combine with all or a part of the acid and so bring the free acid down to a certain level. From the observations it seems possible that some tryptic digestion may occur within the stomach when the free acid is low from combination with portein. The results do not, however, even remotely suggest that the administration of a few grains of the various commercial products claimed to contain trypsin or pancreatin would have the slightest therapeutic significance (*Jour. A. M. A.*, Feb. 17, 1917, p. 554).

Firwein.—The Council on Pharmacy and Chemistry, reports that Firwein (The Tilden Co.) is sold under the claim that when swallowed it has a "predilection" both for the bronchial mucosa and also for the genito-urinary organs. The Council finds that little information is given in regard to the composition of Firwein. As the composition of Firwein is secret, the therapeutic claims unwarranted and its use irrational, the Council declared it inadmissible to New and Nonofficial Remedies (*Jour. A. M. A.*, Feb. 17, 1917, p. 564).

Firolyptol Plain and Firolyptol with Kreosote.—The Council on Pharmacy and Chemistry reports that Firolyptol (The Tilden Company) is said to be composed of eucalyptol 10 drops, cotton-seed oil ½ ounce and Firwein enough to make 1 ounce, and that, as the composition of Firwein is secret, the composition of Firolyptol is also unknown except to the manufacturers. Firolyptol with Kreosote is said to contain, in addition to whatever may be the component parts of Firolyptol, 10 minims of creosote to each ounce. The advertise-

ments for these two preparations seem to have for their key-note the assertion that cottonseed oil is a particularly valuable nutriment and that when combined with the constituents of Firolyptol and Firolyptol with Kreosote it becomes particularly valuable to the tuberculous. The Council discussed the extravagant claims made for these proprietaries; reminds that food and fresh air, not drugs, constitute the fundamentals of the treatment of tuberculosis; and finds that neither of the products is acceptable for New and Nonofficial Remedies (*Jour. A. M. A.*, Feb. 17, 1917, p. 564).

More Misbranded Nostrums.—The following "patent medicines" were found misbranded under the U. S. Food and Drugs Act chiefly because false and fraudulent therapeutic claims were made for them: Collins' Ague Remedy, admittedly containing 33⅓ per cent. alcohol.—Swaim's Panacea containing nearly 5 per cent. alcohol, 58.5 per cent. sugar, 0.1 per cent. salicylic acid and some sarsaparilla. —Swayne's Panacea, essentially the same as Swaim's Panacea in composition.—Croxone, capsules containing a white pill and a red oil: the oil was oil of pine or oil of juniper dissolved in a fatty oil, while the pill consisted essentially of strychnine, a trace of brucine, aloin, hexamethylenamin, lithium carbonate, potassium nitrate and probably a trace of atropin.—Freeman's Balsam of Fir Wafers, lozenges consisting of sugar with very small amounts of oil of turpentine and eucalyptus with the possible presence of balsam of fir.—Renne's Pain Killing Oil, essentially a water-alcohol solution of sassafras oil and cayenne pepper containing 78.6 per cent. alcohol and 4 per cent. volatile oils and possibly a little mustard oil and soap.—Schub's Yellow Injection, an aqueous solution of boric acid, carbolic acid and berberin.—Schub's White Mixture, a mixture of mucilage of tragacanth, balsam of copaiba, and probably sandalwood oil, flavored with cassia.—Elmore's R'eumatine Goutaline, apparently a dilute tincture of colchicum.—Armstrong's Croup Ointment, containing eucalyptus and traces of other oils, possibly cassia and thyme.—Anticephalalgine, containing 30 per cent. alcohol and 4 grains acetanilid to the ounce, sodium bromid, sodium salicylate, caffein and antipyrin.—Wright's Rheumatic Remedy, an emulsion composed principally of turpentine, methyl salicylate, sugar, acacia, and water, with probably some resinous or plant extractive matter.—H. G. C., a watery solution of borax and berberin sulphate.—Russell's White Drops, containing 13 to 16 per cent. of alcohol as well as codein.—Pneumovita, a sweetened gum, containing small amounts of charcoal and iron phosphate having a wintergreen flavor.—Mecca Compound, an ointment containing carbolic acid, camphor, borates, zinc compound, sodium soap in a soft paraffin base.—Best Cough Remedy, a spearmint syrup containing alcohol, chloroform and morphin.—Stella-Vitæ, a female weakness remedy.—Vegetable Pulmonary Balsam, a syrup flavored with spearmint, sassafras, containing alcohol and opium (*Jour. A. M. A.*, Feb. 17, 1917, p. 565 to 566; Feb. 24, 1917, p. 651).

Biniodol.—The Council on Pharmacy and Chemistry reports that Biniodol is claimed by the manufacturer, Charles C. Yarbrough, Memphis, Tenn., to be a solution of 1 per cent. mercuric iodid and 2.75 per cent. guaiacol in a vegetable oil and that it is marketed with the implication that it is new and superior to other oil solutions of mercuric iodid. The Council found that the claims of novelty and of superiority were not substantiated by the evidence. Clinical investigation did not demonstrate the effects of Biniodol to be different from those of solutions prepared in the A. M. A. Chemical Laboratory, with and without guaiacol. The Council declared Biniodol, inadmissible to New and Nonofficial Remedies because claims of superior efficiency were not established; and because it is an unessential modification of an established non-proprietary article marketed under a proprietary name (*Jour. A. M. A.*, Feb. 24, 1917, p. 650).

Progress in Medical Science

PASTEURZIED VS. RAW MILK

Recent events in Vermont have demonstrated the following facts:

Scarlet fever can be carried by raw milk;

Streptococcic infection can be carried by raw milk;

Diphtheria can be carried by raw milk;

Typhoid fever can be carried by raw milk.

An outbreak of each one of these infections reaching epidemic proportions through the milk supply is evidence of the accuracy of these statements.

This further fact is also developed: That oftentimes a milk supply which is the subject of the most care by the producers is shown to be the one at fault.

For a long time there has been no doubt in the minds of sanitarians that tuberculosis is transmitted through milk.

The concentration of delivery, whereby one dealer handles a large proportion of the entire supply of a town or city, largely increases the danger if infection accidently occurs.

These facts can lead to only one conclusion, viz: No matter how good the supervision exercised by a city or town over its milk supply, as long as raw milk is fed to infants and indiscriminately used, infections of this kind in otherwise good milk are likely to occur at any time and result in sickness and death in the community.

Properly pasteurized milk is a safe and nutritious food, and proper pasteurization is a simple and easy process.

Until the time comes when the dealers will be obliged to pasteurize their entire output, each individual mother and housekeeper can render the family supply safe by the following procedure:

To pasteurize a quart of milk, use an ordinary deep saucepan or kettle; fill to within two or three inches of the top with water. Invert a small cup, letting it rest in the water at center of the bottom of the pan; put the pan on the stove and heat water to 100 degrees F. Remove the cap from the bottle of milk and set the bottle on the inverted cup, leaving two or three inches of the top of the bottle above the water.

Have a reliable, clean thermometer (price 25 cents) to test the temperature, and when the milk has reached a temperature of 145 degrees F., remove from the fire, allow the bottle of milk to remain in the hot water for 30 minutes; take it out and cool as rapidly as possible in cold water. The milk should then be put where it will keep cool, protecting it from any dust or other contaminating influence.

Every step in this process is important for the following reasons:

If every particle of milk is not raised to the proper temperature and held there for a sufficient time, the bacteria contained therein are simply stimulated in their growth instead of being killed.

A temperature of over 150 degrees affects both the taste and the cream line, besides killing off some of the beneficial bacteria which should be retained.

Rapid cooling and protection are necessary in order that the milk be not reinfected by bacteria carried in dust or by other means.

Improper pasteurization gives a false sense of security.

Where any considerable amount of milk is pasteurized by the producer or dealer, the process should be under the constant supervision of the health authorities, unless the most modern machinery is used, as experience has shown that the make-shift methods temporarily used under orders of the Board of Health are far from reliable when not constantly supervised.

It is entirely feasible for the entire supply of our larger towns and cities to be pasteurized, by co-operation of the dealers. In fact, the time is probably not far distant when such a system will be introduced in Vermont. When that time comes, we shall have no more such experiences as St. Albans and Rutland have recently passed through.

The public generally is gradually getting away from the old idea that "milk is milk," no matter in what condition, and an unsafe milk supply will not long be tolerated. A grocer who constantly sells decayed fruit or vegetables or a butcher who sells bad meat will soon lose his trade. The public is beginning to demand a standard of safety for milk.

Health officers and physicians must be the leaders in this movement, or they will soon find that they will be forced to accept the dictum of public opinion on the subject. While primarily a medical subject, it is also a matter of common decency, and when the public mind is finally aroused, the day of dirty and infected milk will be past.

C. F. D.

MESENTERIC CYSTS

"Mesenteric cysts belong to the rarities of surgical observation, though they seem to be four times as common as the solid tumors."—(Keen's Surgery, p. 637.)

Cases appear in the literature of the 17th and 18th centuries. "It is likely that about 200 cases of chylous type could be accumulated in the world's literature."—(Benedict.) Chylous cysts embrace approximately one-half of all mesenteric cysts reported.

"The points of particular interest centering around cysts of the mesentery are their rarity, their genesis, their disputed classification, the infrequency with which they are diagnosed, and their role in causing intestinal obstruction." —(Jones.)

Much discussion has taken place as to the origin of these rare tumors. The described origin frequently varies with each of the older observers. Recent observations tend to show that the largest number unquestionably are of embryonic origin.

Hadley, referring to chylous cysts, believes that : "The lymphatic sacs by a process of bridging or cutting of the lumen by bands of connective tissue are transformed into a plexus of lymphatic capillaries out of which chains of lymph-nodes are evolved. If this development of a particular lymph-node was arrested at a stage when it was still a plexus we would have the basis for the development of a future cyst."

Some contend that some forms of mesenteric cysts have the histologic structure of the intestine and represent the remains of the vitelline duct. In support of this view is the experimental work of Lewis and Thyng who actually observed a sequestration taking place in a developing gut. Miller reports a cyst which was undoubtedly due to such a sequestration from the intestine. Dowd

observed a cyst in the mesentery of the transverse colon probably due to misplaced ovarian tissue during embryological development as the cyst contained pseudomucin and equally important was the fact that a portion was still lined with epithelium. He was convinced that mesenteric cysts hitherto classed as chylous, serous, sanguinous, and lymphatic, were in reality all embryologic in their inception. Dowd's classification was rather incomplete, however, and while pointing in the right direction has been accepted only in a modified form.

The older literature, not being familiar with embryology, failed to observe mesenteric cysts from such a standpoint, and classified them according to Keen's Surgery as serous, chylous, hemorrhagic, dermoid and echinococus. While there have been various classifications with regard to the origin of mesenteric cysts, modern authorities are more and more inclining to the belief that all of these cysts, not parasitic or malignant, are of embryonic origin.

The following may be cited as illustrative of "the progressive changes which have been made in the classification of mesenteric cysts since a large enough number have been studied to warrant classification: In 1897 Moynihan classified them as; serous, chylous, hydatid, blood, dermoid, and cystic malignant disease. Only the dermoid suggests embryonic origin. In 1900 Dowd proposed embryonic, hydatid and cystic malignant disease. Here the embryonic origin of nearly all these cysts is implied. In 1907 Niosi subdivided the embryonic cysts as follow: cysts of intestinal origin, (a) by sequestration from the bowel during development, (b) from Meckel's diverticulum, dermoids and cysts arising from retroperitoneal organs (germinal epithelium, ovary, Wolffian body, Mullerian duct).

So that whether or not one agrees with the view that most mesenteric cysts are embryonic, there is evident a growing tendency to believe that a great many do so originate."—(Jones.)

Niosi's subdivision of the embryonic type appears to amplify Dowd's classification sufficiently to make it readily acceptable, in the light of recent investigation, as substantially correct. A few additions may have to be made from time to time as to structures involved in embryonic deviations. Outland and Clandenning's case seems to come within this classification by the addition of testicular tissue along with ovarian in cysts arising from retroperitoneal organs (germinal epithelium, ovary, Wolffian body, Mullerian duct) of the Dowd-Niosi classification.

G. H. Makins of London, Surgeon to St. Thomas' Hospital, writes:

"The diagnosis must usually be made by the process of exclusion. A definite opinion is most readily reached in the case of young children with cysts situated in the mesentery of the small intestine; in them no other cyst in a similar high central position is often met with.

"In adults a number of cystic tumors need to be taken into consideration."

Chilton says that they are generally situated in the wall of the abdomen near the umbilicus or in the vicinity of the small intestines; and that these cysts are congenital, unilocular, and consist of a clear yellowish fluid containing fat and cholesterin. He adds:

"The diagnosis of the nature of such conditions is impossible until the abdomen is opened."

Rosenbladt adds that these cysts are most common in the mesentery of the ileum; that sometimes they are near the root and sometimes near the bowel; and they may range in size from that of a walnut to that of an adult head, though recent observers report even larger cysts.

Child says that age and sex seem to be unimportant factors.

Regarding the process of exclusion, Rosenbladt reports a case of supposed gall-bladder disease in which the X-ray excluded this disease but gave no aid as to the diagnosis of mesenteric cyst, the latter being found at operation.

Jones says: "It is probable that a diagnosis of a mesenteric cyst is seldom, if ever, made prior to operation or autopsy. It would seem, however, that the time has come when a diagnosis ought to be made in typical instances with reasonable certainty."

"Of course, a diagnosis presumes that the cyst has reached some size. If its location be in the mesentery of the small intestine (and not confined to the root of the mesentery) the outstanding feature will be its extreme mobility. Theoretically and sometimes actually it can be carried from one side of the abdomen to the other, and can be made to perform similar excursions in a vertical direction. The tumor may at times be rotated on its own axis. Given such a movable tumor, centrally situated, fluctuating, surrounded by resonance not connected with the ovary, liver, kidney, or spleen, and the diagnosis is practically certain. If there can be added to this information a band of resonance crossing the tumor and a history of recurring attacks of pain and vomiting, a positive diagnosis is warranted." Jones also reports a case wherein a cyst of the mesentery of small bowel was found at operation in a hernial sac.

In a search of the literature, I find no reference to the use of the X-ray as a method of diagnosing mesenteric cysts. In fact, nearly all authorities agree in the following statement made by R. T. Miller in 1913:

"The fact that a cyst of the mesentery has not been positively diagnosed before operation or autopsy is conclusive evidence that distinctive signs and symptoms do not exist or have escaped recognition."

C. F. B.

TUBERCULOSIS NOTES

The first number of "The American Review of Tuberculosis" has appeared. This is the official organ of The National Association for the Study and Prevention of Tuberculosis and should be found on the table of all physicians especially interested in tuberculosis. It contains much material of interest to the general practitioner. The large and eminently able staff of editors gives promise of a thoroughly sound and up-to-date magazine.

In this issue Garvin, Lyall and Morita present a very instructive paper on "Chronic Non-Tuberculous Lung Infection:"

Such lesions are caused most often by the infleunza bacillus, less often by the pneumococcus or a streptococcus. The course is that of a very chronic disease beginning with slight cough which grows worse from year to year, is usually worse in winter (sometimes in summer) and is accompanied by numerous exacerbations of "grippe." For a long time, inspection, auscultation, etc., give

no signs suggestive of pulmonary tuberculosis. Ultimately the general health fails, cough and expectoration increase, there may be hemorrhages and the patient is thought to have tuberculosis. At this time inspection usually shows a normal chest with fair to good nutrition. Auscultation with or without cough may reveal few or many moist rales, usually below the center of the lungs.

In chronic non-tuberculous lung disease it is frequently difficult to make the physical signs match the symptoms. There may be a great deal of cough with copious expectoration and yet there may be few or no rales heard anywhere. This is changed, however, if the patient is placed in an inverted position, over a chair, or the end of a bed so that the lower tubes will drain. Then rales become clear and numerous. In the upper lobes diagnosis is more difficult but the presence of some causative micro-organism, the steady absence of the T. B. negative X-ray findings may determine diagnosis.

The differential diagnosis rests on the duration of the disease which exceeds that of tuberculosis as regards the inroads upon general health. The non-tuberculous diseases are basal in 90% of cases; tuberculous diseases are apical in 90%. Physical signs are different in location and kind, while cough and expectoration may be much more marked than physical signs. The effect of posture may be of great value and bacteriological study may fix the diagnosis as firmly as may at present be done.

The essential treatment is posture to drain the dilated bronchi and the bronchiectatic cavities. The patient may kneel on a chair seat, thighs vertical and bend forward and rest the hands on the floor thus bringing the body from hips to shoulders almost vertical. Or she may bend over the low foot piece of an iron bed with the upper part of the thighs resting on a pillow across the foot of the bed, the body being vertical with head down, or again the patient may rest upon a table in a modified Trendelenberg position. In any case the body must be inverted and this position maintained for at least 15 minutes three or four times a day at least. In this way basal cavities and dilated tubes may be emptied and the cough and other symptoms practically removed while the general health is greatly improved. Country life with outdoor-rest treatment gives additional good results. Prognosis is excellent among the younger patients. With proper pulmonary toilet they may aspire to most fields of usefulness provided the occupation involved is not particularly dusty.

A. S. Griffin in a paper entitled "Types of Tubercle Bacilli in Cervical and Axillary Gland Tuberculosis (London Lancet, Feb. 3, 1917) shows that in England and Scotland about 71% of such cases under 10 years of age show bacilli of the bovine type, between 10 and 20 about ⅓ show bovine tubercle bacilli while the proportion in older people is about 1-5. In those under 10 years old the percentage of bovine-type cases was about the same in both England and Scotland but in older cases the proportion of bovine infection is much higher in Scotland than in England.

H. S. G.

University of Vermont College of Medicine

Program of Post Graduate Instruction

April 27-May 19, 1917

Friday, April 27th, 1917

2:00 p. m. Surgical Clinic, Drs. Wheeler and Tinkham.

4:00 p. m. Diabetes, Discussion of the Allin treatment, Dr. C. H. Beecher.

8:00 p. m. Veneral Disease Law, Dr. Dalton.
Syphilis. Illustrated Lecture, Dr. Williams of New York, Dr. Townsend of Rutland.
Refreshments.

Saturday, April 28th, 1917

9:00 a. m. Clinic, Dr. Williams of New York.
Diseases of the Skin.

Friday, May 4th, 1917

2:00 p. m. Gynecological Clinic, Dr. McSweeney.

4:00 p. m. At the Burlington Dispensary, 110 Pearl St.
Interesting Chronic Cases.

8:00 p. m. Military Surgery and Sanitation, Major Burke, U. S. Army.
Refreshments.

Saturday, May 5th, 1917

9:00 a. m. Clinic.
Diseases of Children, Dr. Pisek of New York.
G. U. Surgery, Dr. Townsend.

Friday, May 11th, 1917

2:00 p. m. Clinic. Diseases of the Eye, Dr. Brown.

3:30 p. m. Medical Clinic, Dr. Jenne.

4:30 p. m. Discussion of Case of Brain Abscess.
Case History.
Symptomology, Dr. Sears.
Surgery, Dr. Tinkham.
Pathology. Showing Specimens, Dr. Stone.

8:00 p. m. Illustrated Lecture, Dr. Pisek.
Refreshments.

Saturday, May 12th, 1917

9:00 a. m. Clinic. Diseases of Children, Dr. Pisek.
Surgical Clinic, Dr. Allen.

Friday, May 18th, 1917

2:00 p. m. Surgical Clinic, Drs. Tinkham and Wheeler.
A New Method of Repair of Inguinal Hernia.

4:00 p. m. Symposium on Infantile Paralysis, Drs. Taylor, Dalton, Stone, Sears and Allen.

8:00 p. m. Illustrated Lecture, Dr. Albee of New York.
War Pictures.
Refreshments.

Saturday, May 19th, 1917

9:00 a. m. Orthopedic Clinic, Dr. Albee of New York.

News Notes

Dr. G. D. Parkhurst has been appointed medical inspector of the town schools of Fair Haven.

Dr. S. H. Martin, who has been on an extended trip to Cambridge, Kans., and other points, has returned to Alburg.

Dr. Charles H. Swift, of Rutland, who has been confined to his home for over a month by scarlet fever, has been released from quarantine. He was seriously ill for a few days.

The offices of city physician and health officer are to be merged in Barre. Dr. J. A. Wark doing the work of both. All of the appointive officers have been renamed except two.

Minimum fees for Orleans physicians have been fixed as follows: Office calls, 75 cents; village calls, $1; village night calls, $1.50; outside village within two miles, $1.50; within four miles, $2.25; within six miles, $3; within eight miles, $3.75; within ten miles, $4.50; night calls, $1 extra.

Dr. Henry L. Stickney of Manchester, N. H., who is a son of Mr. and Mrs. Augustin Stickney of Springfield, is to become a member of the staff of St. Mary's hospital, maintained in connection with the University of Minnesota by a million dollar endowment of the Mayo brothers.

Dr. H. N. Waite died March 10 at his home in Johnson. Doctor Waite went to Johnson some 30 years ago. He had been health officer for the past nine years and had just received his appointment for another three years. The funeral was held at the Congregational church, the Rev. F. W. Hazen officiating. The Masonic burial service was given. There were nearly 35 members present. The bearers were R. H. Royce, H. C. Parker, W. E. Tracy, and T. A. Riddle. The body was placed in the vault and in the spring will be buried in Riverside cemetery in Stowe beside his wife, who died several years ago.

Dr. William H. Irish, Norwich University ex-'13, is located in London, Eng., at the Military Orthopedic hospital, Duncan Road, Shepard Bush, where he is serving as contract surgeon with the British Medical Corps with the rank of captain. Doctor Irish is the son of Dr. R. L. Irish, N. U. '89, of New York city, president of the Grand Chapter Theta Chi Fraternity. Both are well known in Northfield.

DO YOU WISH TO DO YOUR BIT FOR AMERICA?

The Military Medical Census of the State of Vermont is now completed and in the hands of the Council for National Defense at Washington.

Many Medical men signified on the cards their desire to receive commissions in one of the Medical Corps of the Army or Navy.

The Surgeon General's Office of the Army has recently simplified very greatly the formalities of application and the necessary blanks with full instructions will soon be forwarded to all that so filled their cards.

Others may obtain the same by addressing Dr. Hamilton.

Vermont Medicine

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Original Papers

OPPORTUNITY AND MEDICAL RESEARCH

By John Smith Horner, M.D.,
West Pawlet

Read at the Annual Meeting of the Vermont State Medical Society, Oct. 12, 1916.

We see it frequently asserted that the time has passed when a poor boy can honestly accumulate by his own efforts a fortune of $100,000,000. This concerns us only by its similarity to what has been said many times of late as to the opportunities awaiting the ambitious medical graduate; namely, that there was nothing left for him to do beyond applying his knowledge to the routine practice of medicine, that with the discovery of vaccination, anaesthesia, value of antiseptics, antitoxin, serum therapy and a thousand and one other procedures of note, as well as the existence of super-surgeons and accomplished diagnosticians, with the field of chemistry and physiology covered by scientists of world-wide fame, also that with the laboratories, institutes and foundations filled with eminent men, backed by unlimited wealth, every door opening a way to success in original work seemed closed.

There are many of us who are satisfied to go on our way alleviating pain, distress, and assisting nature to cure the various maladies with which it afflicts our patients. Indeed, personally, I am thankful of that opportunity, regretting only that while I try to give my patients the best that is in me, the best that is in me is not the best there is.

However, it is the purpose of this paper to show that while equality of opportunity may be lacking, there still exists a field for those who are qualified and ambitious to add to the comfort and well-being of future generations by original work; but, while there may be a chance in every branch of medicine, I will consider only one phase of research endeavor, and that is the causal factors of communicable diseases. The first requisite for the investigator, besides adaptability, talent, patience and perseverance, is a realization of his own ignorance. Self-sufficiency is a serious handicap. It has been said that the most helpless person is the one who thinks himself wise.

To open the door of the vault containing the vast amount of unknown facts as to the origin of disease, one must be open to conviction from any and every quarter and never despise information from any source, in any manner, however conveyed. Another factor for the would-be investigator to consider is how little is known compared to what

there is to be learned as to the cause of contagious or infectious diseases.

When one appreciates the fact that the primal cause of no communicable disease has been discovered as yet, one can scarcely deny that opportunity is still knocking at the door of any of us who are qualified for the task. There is still another and most important factor in this work and that is basing it on the right premises, for no matter how logical the reasoning, or how painstaking the experiment, or how great the facilities for obtaining correct results, if founded on a wrong theory, ultimate failure is assured.

There are two theories as to the origin of life; one correct, the other false. It is not within the province or limits of this paper to discuss in the remotest degree or from any point of view any reason why one of these theories should be believed in preference to the other. One theory is that all life is created by design; that a supreme being gave life to every living thing. The other theory is that life originated from matter containing elements in just the proper proportion so that moisture and the heat and light from the sun set up a spontaneous creation, as it were, resembling, perhaps, in a remote degree, spontaneous combustion.

Before we take up these two theories of life's origin, let us remember that although much is seen in history and heard in every day conversation about our highly civilized country, the medical research man must divest himself of all such imaginations and delusions, and realize that instead of being civilized or even semi-civilized, we are as yet hardly emerging from the state of barbarism. Of course, we can, on looking back to the middle ages, remark, pharisaically, how uncivilized they were then; or, we may even compare ourselves favorably with the aborigines of America, whom we displaced, and whom we even sometimes call savages, and say to ourselves, "They were savage; we are civilized." Indeed the same thing has been going on ever since Man began to improve his lot. With what self-satisfied superiority as to their own civilized condition must the men of the Neolithic Age have looked back and down upon the Paleolithics, considering them as savages, or perhaps emerging from savagery into barbarism; and so it will go on for thousands of years to come. Not such a very long period of time in the future, the men of our day will be looked back upon as they really are, wallowing in a mire of ignorance and superstition. However, while we are emerging from our present state to one more highly civilized, we can consider the two theories of life and their relation to research into the causes of communicable diseases.

It is obvious that the two theories are in some ways incompatible. If the first theory, that of a supreme Creator be followed, then we admit at once that neglected sink drains and cess pools never originate the germs of diphtheria, although they may form the media in which they may propagate themselves. If the first theory be true, we need look no further for the origin of the germs of disease, only devote our time to the conditions that favor their propagation. Again, if the first theory be true, it is possible that the pneumococci and other germs are with us all the time, and only become virulent when conditions arise in the patient which tend to their multiplication. It is possible that the germ which is found in one afflicted with, say,

poliomyelitis or cancer, although being the cause of the spread of the disease, may be a modification of the original germ which may have passed through one or more evolutions in other animals or plants before causing the disease in man; as, for instance, it has been said that the mosquito is the cause of yellow fever. This would be interesting, if true, but although the mosquito is undoubtedly the principal or only way in which yellow fever is spread from man to man, there is nothing to show that that same mosquito would not be harmless had it not first bitten the yellow fever victim. So, while we know how yellow fever is spread, we know as yet nothing as to what causes the first case that was necessary to the mosquito before that insect could spread the disease. Again, if this theory of life be correct, the germs of scarlet fever, measles, mumps, small pox, syphilis, etc., are living somewhere under conditions which promote their development, but the origin of those germs need not be sought, for believing the first theory, the origin of all life, including germs, is already known.

If the second theory of life be true, then we must investigate and look upon all forms of filth, sewage, dead animals and so-called vegetable matter as possible sources of their origin. It has been said that the mosquito causes malaria; although the mosquito spreads malaria, there is a field open to find what conditions combine to form the particular entity the mosquito (that is, supposing that insect to be the cause of the original case) imbibes to produce the cell which attacks the corpuscle and causes the phenomena peculiar to the disease, or, on the other hand, to find out where the man gets it to supply the mosquito. It is possible or probable that before succeeding in our researches, as to the cause of these diseases, we must take a broader view of life; discarding the arbitrary distinctions made in our text books into so-called animal and vegetable life, with man set apart as a different creation. We hear much discussion as to whether certain diseases of the lower animals are communicable to man. Let us consider all life as the same, the only difference being that of conditions; and the answer is obvious; and indeed why should we not? Who can tell where animal life ends and the so-called vegetable life begins. Trees may or may not suffer pain when cut or bruised, but they have a circulation of what to them is blood. They breathe and suffer hunger and thirst and like our hibernating animals, animation is partly suspended in the winter. Trees also have their epidemics, resembling scarlet fever, poliomyelitis and cancer. Once in about so often, after a shorter or longer period of quiescence, during which period there have been sporadic cases, there will all at once occur a wide-spread epidemic, in which thousands of trees and hundreds of maple orchards are denuded of their leaves and ruined; then the next year there is a falling off in the number of cases, and finally the caterpillar leaves, only to return again in a certain number of years with renewed vigor. The caterpillar, after killing many trees and injuring others, goes itself into a somnolent state, and, coming forth a butterfly, lays eggs which in their turn form more caterpillars; but, notwithstanding this apparent endless chain, there comes a spontaneous halt in the epidemic, and it does not return for some years. Find the loafing place of the tree pests ad interim; find the

loafing place of the scarlet fever germ ad interim; and you will have accomplished much. Also witness the affinity of different parasites for different plants, and notice the similarity in the so-called animal life. The pest that destroys the maple tree passes the elm, leaving it unscathed. Likewise, the cholera germ, attacking the hog, passes by the horse in the same barn. Epidemics of grasshoppers, with their clock-like regularity, and sporadic cases in the meanwhile, bear a startling resemblance to epidemics of measles. The reason we are not all of us as familiar with the germ as with the caterpillar, lies simply in the construction of our eyes, a slight change in which would make the itch mite look to us as large as a big spider or an elephant does now.

There is an obvious difference between man, the most highly developed animal. and the thallophyte, but the degradation of man down the line of animals to the protozoa is no more wonderful than the graduation of the thallophyte up through the beautifully multicolored flowers to the highest form of so-called vegetable life. While we are apt to consider germs and bacilli as small because they seem small to us, let us remember that compared with the universe, they are no smaller than we are. In fact, there is no line of demarcation between animal and vegetable life, the highest forms of vegetable life being called animals by some authorities and the lower forms of animal life called vegetables by others. Let us regard all life as inter-related and in our investigations as to the primal cause of the development of such diseases as infantile paralysis, cancer, etc., consider the pollens, the molds, the slimes, toad stools, sewage. garbage and all forms of life, healthy as well as diseased, as possibly liable to originate or conduce to the origin or propagation of forms of life which may cause this disease. We know that life is spread to far-off places by the winds, by birds and many other factors, and in its new habitat, finding conditions favorable, continues to live and multiply. We are, of course, limited in our investigations by our lack of various powers or capabilities which are common to the so-called lower animals; as for instance, we can only see the colors from violet to red. Some of the so-called lower animals can appreciate the vibrations which cause ultra violet and the infra red; and in like manner we are handicapped as to sound waves. Man has not as yet been able to control sex, while the bee brings forth male or female at will. Surely there is some opportunity for original work left for the medical graduate.

There is the field of so-called increase in various diseases; there are many reams written and volumes published attesting the increase of cancer in the last few years. The ambitious research man can keep himself busy for a while in finding out whether there is a real increase in cancer or whether it is a normal increase due to the fact that the medical fraternity has so reduced the mortality in children's diseases through antitoxin, hygiene, etc., that more people live to the cancer age than formerly; also to find out whether the cancer parasite (if there be one) is a stage in the evolution of the vegetable cancer germ.

As to the prevention of disease, much can be learned by a close study of the laws of Moses in the Bible, no matter whether they were inspired or compiled from the accumulated experience of thousands of years. There, as is well

known, are found many of the prophylactic measures of the present, and others which we would do well to copy. Patients, stricken with communicable diseases, in ancient times, were isolated in such a practical manner that that particular patient rarely if ever communicated the disease. The terrible results of syphilis and gonorrhoea were then anticipated by preventive measures. Finally, there is a fruitful field of opportunity open to the young physician to discover why, during the centuries when the Greek and Roman empires flourished, that there could exist untold millions of so-called barbarians who had no medical schools, no boards of health, and in fact, none of our supposed modern superiority in dealing with diseases. Why were they not carried off by the various contagious diseases? Was there an acquired immunity derived through the ages gone by, or did there then exist practical methods of quarantine, isolation and understanding of the cause and prophylaxis of those diseases of which we know nothing?

Through the discoveries resulting from the researches made by members of the medical profession during the past century, millions have escaped pain and suffering, millions of children have been carried through their childhood to serve a life of usefulness, and while we can never hope to decrease the death rate, we are probably on our way to bringing those that must die to the required three score and ten before they are claimed by the inevitable.

While the forces of medical research both organized and unorganized combined with the efforts of those bodies working for the prevention of disease may not be able to decrease the average death rate per thousand, their work is of inestimable value to the practicing physician and surgeon in that greatest of all human endeavors; i. e., that of making birth less painful, life less painful, and death less painful.

It seems to me that the relation of the amoeba to pyorrhoea resembles the relation of fire to a conflagration, and as in the case of fire, it is sought to find whether the cause was faulty wiring, whether conditions prevailed favoring spontaneous combustion, or whether it was incendiary; so should we try to determine whether the fundamental cause of pyorrhoea rests with the nervous mechanism, whether conditions in the mouth are such that the amoeba is spontaneously evolved, or whether the germ, coming from without, finds lodgment and conditions favorable for its development.

I will close this paper with a rule, which I consider more nearly axiomatic than postulatory,—in discussions as to the causes of phenomena where such causes are not a matter of common knowledge, the authorities are always in the wrong.

DISCUSSION

(Dr. Matthias Nicoll, Albany, N. Y.)—I don't know that under the circumstances I can do more than express my very hearty appreciation of the gentleman's eloquence and agree with him most fully as to the desirability of the medical profession as a whole thinking a good deal more, in a direct perhaps rather than an abstract sense, about the origin of disease and the reason for recurrences of epidemics, and also the cause of epidemics in the history of medicine of the past. One remark that the doctor made struck me as rather interesting in the light of the discussion, and that is that he went on in the same old way, trying to make

(*Continued on page* 124.)

Fig. 1

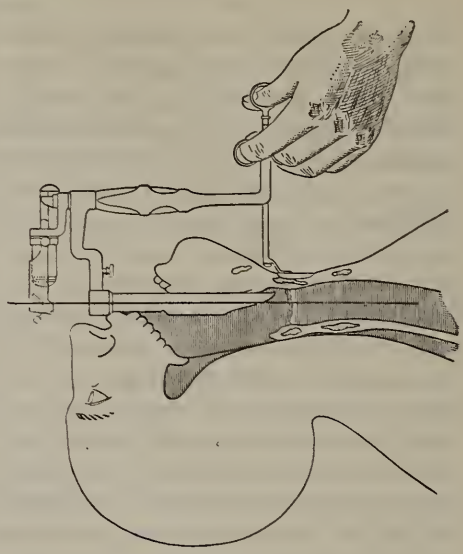

Fig. 2

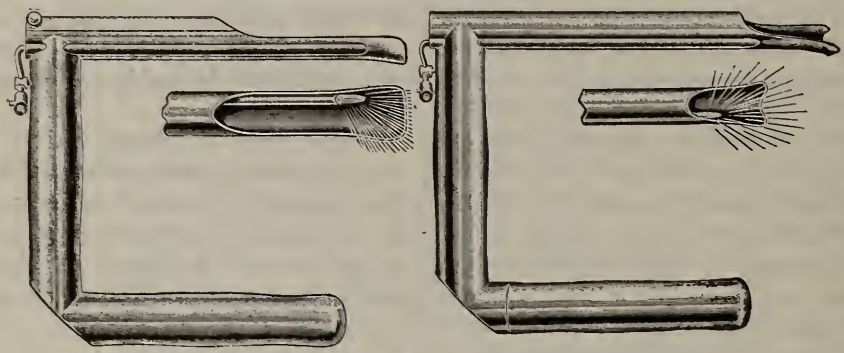

Fig. 3

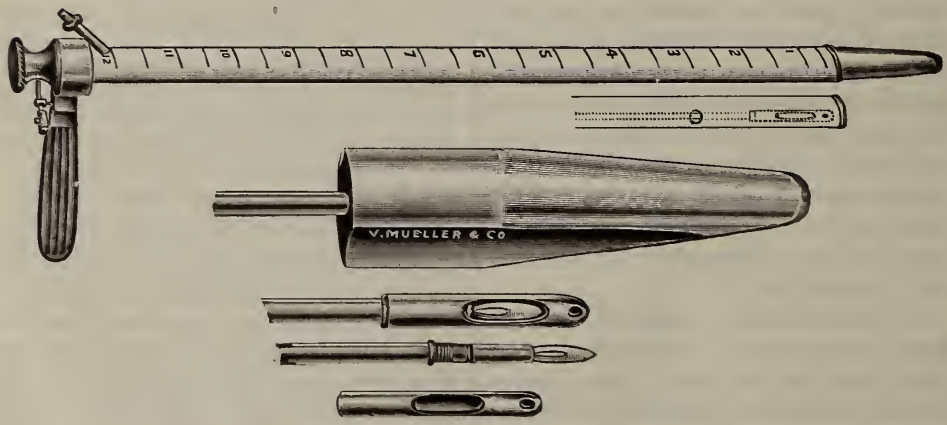

Fig. 4

PER-ORAL ENDOSCOPY WITH REPORT OF TWO CASES

WM. G. RICKER, M.D.

The reason for the publication of this article is that, although the procedure is of fairly common occurrence in the larger clinics, it is comparatively a rarity in this state, and the writer wishes to call the attention of the members of the State Society to the technique and to the possibilities of per-oral endoscopy for the removal of foreign bodies.

For the successful performance of this operation an extensive armamentarium is required, together with the knowledge of its use. As the name implies, this operation consists of direct vision through the mouth into the interior of the larynx, the esophagus, the trachea, and the bronchi. In order to do this, the head must be rotated backward and the neck brought forward (see figure 1) avoiding dropping the head down over the end of the table too low. Figure 2 shows in a diagrammatic way the position of the trachea, esophagus, and larynx in relation to the oral cavity. The instrument shown in this diagram is that of Bruening. The procedure may be carried out in children without any anaesthetic, in adults under cocain, or in children and adults under general anaesthesia. The writer has performed it only under general anaesthesia. The patient's head and neck being held in proper position by an assistant, the directly illuminated laryngoscope (see figure 3, in which two types are shown), is inserted into the mouth, the tip passing behind the epiglottis, using the tip to elevate the epiglottis and base of the tongue. According to the amount of displacement of the larynx by the tip of the instrument the following structures are brought into view in order: posterior wall of lower pharynx, the opening of the esophagus, the arytenoids, the vocal cords, the anterior commisures. According to whether the esophagus or the trachea is to be explored, the proper tube is selected and inserted. For Esophagoscopy the writer uses the flattened type of tube designed by Mosher (see figure 4). As shown in the illustration, this instrument consists of three parts: the tube proper; the obturator, the tip of which is shown separately, which is connected by a long shaft running within the tube to the knob, shown in position at the handle, the entire obturator being removable; and the distal light. The small projection at the upper part of the tube, near the handle is the opening to be connected by a tube to a foot bellows for ballooning the esophagus with the proximal end closed by a plug containing a glass window.

Having the opening of the esophagus clearly in view by means of the laryngoscope, insert the esophagoscope laterally sliding it behind the cartilages, directly into the esophagus. Difficulty may be experienced at this point due to the arytenoids lying close to the vertebral column, and the mouth of the tube covering these instead of passing behind them. Force must not be used, otherwise they may be displaced and great damage to the larynx result. The obturator may be used at this time, the conical end inserting itself behind the arytenoids, then the esophagoscope gently pushed downward until it has passed behind the arytenoids, after which the obturator is removed.

In passing the esophagoscope further downward, firm but gentle pressure is

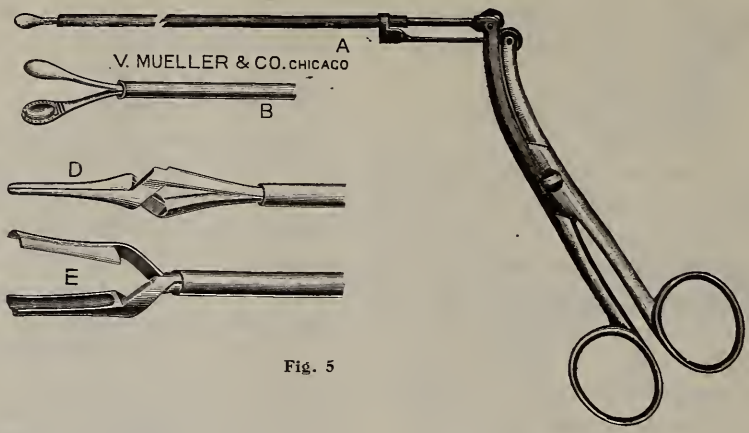

Fig. 5

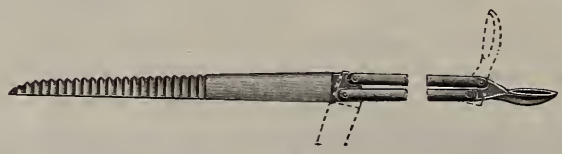

Fig. 6

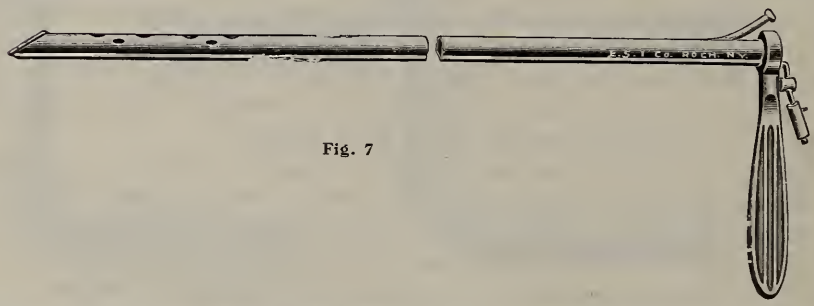

Fig. 7

Fig. 8

used, and in case of difficulty, one or two methods may be utilized. The obturator may be used, but if so, the tube is blocked and direct vision is lost and the operator must work entirely by the sense of touch. The other method is to insert the window plug in the proximal end of the instrument and attach the tube from the foot bellows to the esophagoscope, then the esophagus may be ballooned by the foot bellows directly under the eye and control of the operator, and the esophagoscope pushed downward. More important than either the obturator or the bellows is to have the patient in the correct position. In this way the esophagoscope can be pushed directly into the stomach, at which time the gastric contents will run out freely.

In the search for foreign bodies, X-rays should be taken previous to operation, for diagnosis of the position. After the esophagoscope is passed downward, the foreign body is clearly in view as soon as it is at the mouth of the instrument. Sponge carriers are used to keep the region at the mouth of the tube wiped dry and clean of secretions.

Various forceps have been devised for grasping and removing foreign bodies. The writer uses those of Jackson (see figure 5, which also shows bronchial dilator). These are constructed on the tubular principle with the scissor handle, and are now made with various shaped jaws not shown in the cut. The foreign body is grasped by one or another form of forceps, and if small enough, can be withdrawn through the esophagoscope, or if too large, can be drawn close to the mouth of the instrument, and forceps, foreign body, and esophagoscope, all withdrawn together directly under the eye of the operator.

For the removal of rounded bodies like marbles, or friable bodies like peanut meats or for the removal of lodged portions of meat, the forceps may prove unsatisfactory, on account of not being able to grasp the body at all, or on account of not being able to retain their hold. For such cases the mechanical spoon (see figure 6) devised by Jackson, is invaluable. This is passed straight down between the wall of the esophagus and the foreign body. When the tip of the spoon is elevated, the foreign body thus is grasped from below and is withdrawn in the same manner as with forceps.

In the passage of the bronchoscope the procedure is somewhat similar, the tip of the laryngoscope being brought forward sufficiently to expose the vocal cords. Neither obturator nor ballooning is used with the bronchoscope. Referring to the cut (see figure 7), it will be noticed that the end is slanted. Use is made of this in passing between the vocal cords, the bronchoscope being rotated so as to utilize the tip end for entrance, after which the handle is turned to the antero-posterior position and may be passed down to the bifurcation. On reaching this point, it may be deflected and passed down the bronchus into either lung, and if tubes of proper length and diameter are used, may even be passed into the sub-divisions.

Drainage tubes are provided with these for the removal of mucus, although one must depend chiefly upon sponges. Also anaesthetising instruments are provided so that ether may be administered during the operation.

The procedure of removing the foreign body is similar to that of removing through the esophagoscope. Mosher has devised an ingenious tube which can be passed down over an open safety pin,

and the safety pin closed and safely removed; and Arrowsmith has devised forceps, patterned after the Jackson forceps, but with special jaws, by which an open safety pin can be closed and removed through the ordinary tubes.

Two cases have recently come under my care which I consider worthy of report.

CASE 1.

Child B., Woodsville, N. H. Age, 4 years. Referred by Dr. E. M. Miller, Woodsville, N. H. History: On Sunday, April 8th, 1917, child swallowed a twenty-five cent piece. There was somewhat of a choking sensation for one-half hour or so, after which child became easier, and the family believed that the coin had passed downward. Later in the day, however, the child was unable to eat, and complained of being nauseated, but did not vomit. The following day the child was brought to St. Johnsbury, and an X-ray picture taken by Dr. W. B. Fitch (see figure 8). In referring to this cut, it will be noticed that the coin lies behind the sternum, very near to the level of the crossing of the aorta. The child was breathing normally, and to all appearances, was perfectly comfortable except for the inability to eat, together with nausea and inability to vomit.

Through misunderstanding, the child returned to Woodsville the same day, and returned for operation on Tuesday, April 10th, 1917, the coin having been in its position approximately forty-eight hours. Another X-ray was taken by Dr. W. B. Fitch previous to operation, showing coin to be in the same position. Ether was administered to the surgical degree, the occiput rotated backward, with one hand, and the cervical vertebrae elevated by the other, by the assistant. Making use of the laryngoscope according to the foregoing description, the esophagoscope was inserted, but could not be passed beyond the arytenoid cartilages until they were displaced forward by the obturator, after which the esophagoscope passed with perfect ease to the level of the upper edge of the coin which appeared, being at the end of the tube in perfect view. The Jackson forceps were inserted through the tube, the edge of the coin grasped, and together with the tube, it was withdrawn. Total time of operation was four minutes. After recovering from the ether, child was able to eat and drink with perfect ease.

CASE 2.

Child F., St. Johnsbury, Vt. Age 2½ years. Referred by Dr. W. B. Fitch, St. Johnsbury, Vt. History: The day before the child swallowed a bone button, since which time was unable to eat. Breathing has been natural and easy. The X-ray taken by Dr. Fitch, showed the button to be in approximately the same position as the coin in case 1. On the evening of April 13th, 1917, twenty-four hours after swallowing the button, operation was attempted for its removal. Ether was administered to the surgical degree, occiput was rotated backward, the neck elevated, and the esophagoscope passed by use of only the very tip end of the obturator. Owing to the young age of the child and the diameter of the tube, it passed snugly, but with ease. The esophagoscope was gently passed downward until it entered the stomach, the gastric contents flowing freely from the proximal end. The button did not appear at the end of the esophagoscope, evidently being pushed forward from the end of the instrument by a peristaltic wave of the

musculature or swallowed during the anaesthesia. Two days afterwards the button passed per rectum. On measurement was found as follows: thickness, 5-32 inch; diameter, 29-32 inch.

Comments

Case 1. If unrelieved this would have reached a serious condition in a few days, as the coin was too tightly wedged to pass unaided. Whether retching efforts would have brought it up through the mouth or not, it is impossible to say.

Case 2. This case could have been relieved by passing the bougie, or stomach tube and forcing the button into the stomach, although by doing so one is, of course, blinded and dependent only on the sense of touch. In the case of obstacles with sharp edges or points, the effort to dislodge them downward by a bougie, or to bring them up by exciting vomiting is, of course, quite dangerous, while to await their being coughed up from the trachea or bronchus, is still more hazardous.

Mosher considers the following quotation from Jackson worthy of repetition:

"Considering the brilliant achievements of esophagoscopy in the removal of foreign bodies from the esophagus, it is time to pronounce the prevalent use of the sound, the vertebrated forceps, the coin catcher, the bristle and sponge probangs obsolete, dangerous, unsurgical and utterly unjustifiable. There are numerous cases on record of fatal results from their use, and there are many times as many cases that have never been reported."

It is also of interest in those two cases, to note that the diameter of the coin in case one, and the diameter of the button in case two, are approximately the same, yet in the older child, the coin was firmly lodged above the aorta, whereas in the younger child, the button receded from the end of the instrument without once coming into view.

For those who wish to study this subject thoroughly, reference is made to the monograph by Chevalier Jackson, which covers all phases of this subject most thoroughly, and for a less extensive reading, the article by Harris P. Mosher in Loeb's Operative Surgery. A great deal else has been published, but the writer is more familiar with these two works.

29 Main St., St. Johnsbury, Vt.

Many important departments are entirely omitted from this number because of the annual roster.

his patients comfortable, and as I understand it, not paying particular attention at the present time to the higher flights of scientific medicine. I wonder if any of you have thought, I know you must have thought, of the tendency of modern medicine as it affects the patients. I think, especially near large medical centers, the great tendency of medical science is all directed toward making diagnoses; that is certainly so in the cities of New York, Boston, Philadelphia and Baltimore. The greater the diagnostic skill of any one physician, the less his therapeutic ability, or rather his therapeutic interest, so it has come to pass that the practice of medicine, literally taken, is to my mind becoming rather a dead letter in our so-called medical centers. I think you will all agree to that, and the discussion that I took part in places that fact, which I believe is a fact, as one of the main causes for the flourishing of quackery. I refer to osteopathy, chiro-practic—I won't say Christian Science, because that is not the practice of medicine but a religion, under the last decision of the Court of Appeals—but various forms of what I should term quackery, the use of quack medicines and nostrums of different kinds. The difference between the practice of medicine and quacks is this, the quack never fails to hold out to the patient the hope of ultimate recovery. The modern so-called practitioner has tremendous interest in making the diagnosis, and that is the end of the matter; it makes very little difference to him what happens to the patient, or what he does to the patient. Now that is not what the patient is looking for, and I know more than one man in the city of New York, with great reputations as consulting physicians, whose careers I have watched for a long time, and who have today practically ceased to have patients, for the very simple reason that they have stuck to the diagnostic aim and method and given no hope, no suggestions, to those with whom they consulted, or to the patients themselves as to the conduct of their life and their general welfare. I believe, gentlemen, that is a very important matter. I suppose most of you would probably not come under that category, maybe it is a development of the larger cities, but it is an important development, it is a very important thing, one which is increasing and one which I believe must be counteracted if we are to fight against quackery, as we are going to have to fight harder and harder every year. The practice of medicine, in contrast to the diagnosis of disease, the cold-bloodedness, if I may so call it, of diagnosis, must be encouraged, must be taught in medical schools, and must be borne in mind. We are not treating pigs, dogs, cats, chickens, cows, we are treating human beings like ourselves, and we must not forget that is our purpose ultimately in life.

(Dr. Sears)—I would like to ask whether Dr. Nicoll means that we should adopt the same methods as these quacks that he speaks of. I think in the treatment of disease, we are rather getting away from old methods of quackery. Now how are we to do this without going back?

(Dr. Nicoll)—I suppose you would be surprised if I should answer in the affirmative. I think we should. The ray of truth that there is in so-called quackery should be adopted by the general practice. I don't know whether there are any osteopaths in the room or not; there is a lot of truth in osteopathy, there is a good deal in Christian Science, and there may be some in Chiro-practic. I believe the attitude of those men accounts for their success, and in so far as there is any truth in their work, I see no reason why it should not be adopted. In this case, in the discussion which I referred to—and I see no reason why I should not mention the name, Dr. Ordway, a very able man—he went so far as to say he believed the time was coming when there would be a chair, not for the exploitation of quackery, but to set forth the truths there were in these various things for the sake of the medical profession. There would be a way of showing the falsity of their claims, which we all know as physicians, and yet the laity do not, and at the same time stating the facts, the amount of truth there is in those claims. I don't know whether you have to do it in Vermont, but every year just as regularly as the year comes around, we have to send delegates to Albany to fight a tremendous lobby of these quacks. We have to look at it as practical men, politicians, if you like, we know they should not exist, we know they are going to do harm if they flourish too extensively, but they have got to be fought, not by sarcasm, not by facing them, but with their own weapons, and I believe that the stealing of some of their weapons is a legitimate method of turning them against them.

Vermont Medicine

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Rutland, Vt., May, 1917.

Editorials

FOOD SUPPLIES AND WAR.

Niebuhr tells us that in the ancient world agriculture was the one calling honored above all others, while merchants and craftsmen ranked among the lowest of all classes in society. It is not likely that farmers will ever regain their ancient eminence, but since it is true that all material wealth comes out of the ground and that truth is becoming recognized by political economists, the farmer seems to be in the way of finding his real place in society to be a higher one than has been for some centuries accorded to him. The man with the hoe is now acknowledged to be the foundation and corner-stone of the edifice of material prosperity. He is the producer *par excellence,* and wheat is the basis of civilization. Ours is the greatest wheat-producing country in the world. Our plains are more extensive and better cultivated than the Ukraine or the vast pampas of the Argentine. In 1915 we harvested a wheat crop of 1,011,505,000 bushels, being the greatest wheat crop recorded. Our own normal consumption being about 600,000,000 bushels, we had an excess of half a billion bushels for export. This year the figures show a different condition. The Department of Agriculture estimates the winter wheat at 266,000,000 bushels and forecasts the spring wheat at 250,000,000 bushels, making the entire wheat crop for 1917 only 616,000,000 bushels, which under ordinary conditions of peace and without sending any wheat abroad would just about suffice for our own consumption. But we have other mouths than our own to fill. Britain, France, Belgium, our allies, must be fed and fed by us to a great extent. It is certainly to be hoped that England, menaced by the U-boat campaign and a consequent dearth of food, has had enough forethought to put down to wheat the great plains of Yorkshire and Northumberland. Every park, terrace and lawn in England should be planted this year with wheat, beans, corn, and potatoes. But our own duty is clear and has been clearly pointed out, and for the present at least, we all are proud to become

farmers. The country has been aroused to the necessity of increasing our food supply by every available means, and without doubt the results will meet the new and urgent demand of circumstances.

This is very excellent, very admirable. The spirit in which America has made her response to this demand is fine. But there is one very disquieting thing that is involved in all this. Statistics, it is said, may be made to prove anything on either side of a question, but no statistics can disprove the unholy circumstance that about one-sixth of our wheat crop is distilled into whisky. One hundred million bu. of wheat are thus withdrawn annually from the available food products and converted into whisky. How much corn is similarly diverted from necessary consumption, how much barley is lost for food by being turned into beer, we have no present means of knowing, but these amounts also must be enormous. Nor is the fact sufficiently stated when we speak of these losses. They do not only disappear from our table of available assets, they do not alone decrease our food supplies, they not only cease to fight with us, they fight against us. They are enrolled in the ranks of our enemies, and Lloyd George told the truth when he said to the people of Great Britain that, of the two enemies that opposed their nation, the Germans and alcohol, the Germans were the less deadly. It has been said, and we suppose with much truth, that during the peninsular war the British officers as a rule drank themselves every night into a condition of unconsciousness. It has been said, and of this there seems no doubt, that the perpetual drunkenness of the Russian officers in Manchuria delivered their soldiers to hopeless destruction at the hands of the sober, hardy Japanese. It is inconceivable that anything of that kind could occur among our armies—when we have them—but we as physicians know thoroughly the effect of small, non-intoxicating doses of alcohol on the efficiency of the special senses and especially in men who are not habituated to its use. The German drinks only beer, unless when he can break into a wine-cellar and steal the wine, and the German is a seasoned vessel and cannot hold enough 3% beer to disable him. His beer only infuriates him and without doubt much of the devastation in northern France may be charged up to the beer from Munich and Pilsen.

We have never believed the reports that from time to time have come to us, that Germany was at the point of starvation. So far from suffering from a dearth of cereals, Germany has still a surplus wherefrom she manufactures beer,—unless it may be that the effect of alcohol on the German soldiers is thought more necessary than food to bring them to the necessary pitch of exaltation where alone the demands of *schrechlichkeit* may be adequately met. Nor is there in Germany such a lack of fats as might be inferred from some of Hindenburg's admonitions. There are probably more pigs in Germany today than ever before, only in place of using fat for food they think it more profitable to convert their pigs into dynamite and other high explosives. The fact is perhaps not generally known—at least we have never seen it alluded to—that glycerine is the product of the decomposition of animal fats and when nitric acid is incorporated with it, the result is nitroglycerine, which is the basis of all the high explosives. The circum-

stance that Germany was increasing her supply of these animal fats by extracting them from the bodies of her dead soldiers, while repulsive to every sentiment of humanity and while not yet sufficiently authenticated to be stated as a fact, is yet in perfect accord with her theory that to the exigencies of war, all considerations of sentiment, of propriety, of truth, and of morality, must be subordinated and if necessary sacrificed. It is against this theory of war that we have taken up arms.

Secretary's Page

Following out the instructions of the House of Delegates at the annual meeting of 1916, the Executive Committee have arranged for the first of the series of Post-Graduate Meetings to be held as follows:

Bellows Falls, May 29th, at 1:30 P. M. at Hotel Windham.

Rutland, May 30th, at 11:15 A. M., at the Rutland Hospital.

Burlington, May 31st, at 8 P. M., at the College of Medicine.

St. Albans, June 13th, at 1:30 P. M., at Eagle's Hall, Paige Block.

Montpelier, June 14th, at 2 P. M., at City Hall.

St. Johnsbury, June 15th, at 1:15 P. M., at the St. Johnsbury House.

The speaker will be Dr. J. A. Turnbull of Boston, a member of the staff of the Mass. General Hospital. The subject is "Anaphylaxis."

Following is a synopsis of the paper:

Definition of anaphylaxis.

Methods of producing anaphylactic state experimentally.

That the anaphylactogenic agent is a proteid.

Protein sensitization, relation between parenteral and enteral digestion of proteids, action of proteolytic ferments.

Action of heat on anaphylactogenic substances.

Relation of various protein sensitization.

Sensitization of one protein against another.

Acquired and hereditary sensitization.

Relation of hereditary transmission of protein sensitization.

Fatal results due to horse serum when diphtherial antitoxine administered to one sensitive to horse serum.

Protein cleavage.

Time for production of anaphylaxis, avenues of entrance and classification of anaphylactic substances.

Methods of diagnosis of protein sensitiveness.

Classification, diagnosis, treatment, of seasonal and perennial hay fever and asthma, protein sensitization in various skin disturbances, arthritis, gastro-intestinal disturbances and headaches.

It will be noticed that the entire list of meetings is given above so that the physicians may attend which ever one is most convenient.

This paper has been given once in the State, those hearing it considering it one of the most valuable contributions we have ever had, and every physician is most strongly urged to attend one of these meetings. Although the synopsis may appear at first reading rather technical, Dr. Turnbull expresses the facts of this subject very clearly. He deals with facts, not with theories, and gives one a very clear understanding of this modern phase of internal medicine.

W. G. R.

EXAMINATIONS FOR COMMISSIONS

The State Committee for Vermont of the Committee of American Physicians for Medical Preparedness feels that an explanation is due the Physicians of the state in connection with the postponement of the examinations of applicants for commissions in the Medical Section of the Officers' Reserve Corps of the Army.

This Committee was requested on April 17th, by the Council of National Defense, under whose direction we are working, to select two or more Medical Officers whom the Surgeon General would authorize to conduct these examinations.

The Council requested that we arrange meetings in the various counties and endeavor to secure as many applicants as possible.

Our Committee selected two men and the Surgeon General authorized them to conduct the examinations, but Dr. Mitchell was the only one found available and he met the men at Burlington, Rutland and Brattleboro. At the date of the Rutland Meeting it was found that Dr. Mitchell had not received authorization for travel and we at once (May 7th) wired the Council for further information. No reply was received to this telegram for about a week when the Council informed us that there were no funds available for the Surgeon General to use for this purpose. Had the examinations been held as scheduled in Montpelier, St. Johnsbury and St. Albans, the Committee would have been compelled to assume the expense personally.

It seemed that the new army bill was so soon to become a law that we waited developments and now that it has been enacted and the Surgeon General has full authority to act we are awaiting further instructions.

Again we wish to say that our only regret is that there was some inconvenience to the medical men of Vermont.

At the meetings held the following physicians were given examinations by Captain Mitchell:—

At Burlington—Drs. Geo. B. Hulburd, Jericho; Wm. M. Johnstone, Morrisville; C. S. Leach, Hyde Park; W. F. McKenzie, Burlington.

At Rutland—Drs. S. A. Cootey, Wallingford; E. J. Cray, Brandon; J. M. Hamilton, Rutland; L. A. Heidel, Rutland; T. E. Larner, Rutland; J. L. Lovejoy, Manchester; R. W. Prentiss, Middlebury.

At Brattleboro—Drs. Thos. Rice, Brattleboro; C. A. Aldrich, Brattleboro.

Many others who had not properly completed their application papers signified their intention to take the examination at a later date.

JAS. M. HAMILTON,

Secretary of Committee.

ROSTER

Vermont State
Medical Society

1917

Constitution and By-Laws

Vermont State Medical Society

CONSTITUTION

(As adopted Oct. 9, 1902, with subsequent amendments.)

Article I.—*Name*

This Society shall be called the Vermont State Medical Society.

Article II.—*House of Delegates*

Each affiliating County Society in the State shall be entitled to and elect one delegate for every ten active members and one for any additional fraction of more than half that number to represent it at the annual meeting of the State Society.

At the first annual meeting one-half, or as near as may be, of said delegates shall be elected to serve two years and the remainder for one year. At each subsequent annual meeting a sufficient number of delegates shall be elected to complete the quota of that county.

An alternate for each delegate shall be elected at the same time.

The above named delegates shall collectively constitute the House of Delegates of the Vermont State Medical Society, and shall conduct the general business of the annual meeting and elect the officers. They shall elect their own officers and may adopt such By-Laws and Regulations for their own procedure as are not in conflict with the provisions of this Constitution and By-Laws.

No member of the House of Delegates shall be eligible to the offices in this Society of President, Vice-President, Secretary, Treasurer or Auditor.

Article III.—*Officers*

The officers of this society shall be a President, Vice-President, Secretary, Treasurer, Auditor, a Council, which shall consist of the president, secretary and treasurer of this society, and of four councillors elected from four districts as follows: 1st District to consist of Grand Isle, Franklin, Chittenden and Addison Counties; 2nd District, Rutland Bennington and Windham Counties; 3rd District, Orleans, Orange, Essex and Caledonia Counties; 4th District, Lamoille, Washington and Windsor Counties.

The councillors from the First and Third District shall be elected in odd years to serve two years and those from the Second and Fourth Districts shall be elected in even years to serve two years; a Publication Committee of three members of which the secretary shall be chairman; Executive Committee of which the secretary shall be one, *ex-officio;* a Committee of Necrology of three members; Committee of Legislation of three members; Committee of Health and Public Instruction of five members—all of whom except the council shall be elected annually and shall hold their respective offices until the close of the next annual meeting and until their successors are elected.

There shall also be a committee on Medical Education of three (3) members, to be elected for one, two and three years respectively, and thereafter one (1) member elected each year to serve for three (3) years and until his successor is elected.

There shall be nominated by the House of Delegates each even year, two (2) members whose names shall be submitted to the Governor for appointment to the Board of Medical Registration, in accordance with the provisions of the laws of the State.

The House of Delegates shall elect a medico-legal committee of three members, one to serve for one year, one to serve for two years, and one to serve for three years, and hereafter there shall be elected annually one member to serve for three years and until his successor is elected.

Article IV.—*Meetings*

There shall be an annual meeting of this Society held on the first Thursday and Friday after the second Wednesday in October, at such place as shall be designated by vote of the House of Delegates at the previous annual meeting.

Article V.—*Membership*

The active membership of this society shall consist of the active members of the affiliating County Societies, whose dues to the State Society are paid in accordance with the by-laws of this Society.

Article VI.—*Discipline*

Any member of the Society guilty of intoxication, unprofessional or irregular practice, or of gross immorality, or for other good reasons, may be expelled or suspended from the Society by a two-thirds vote of the House of Delegates present at any annual meeting.

Article VII.—*Changes in Constitution*

This Constitution may be repealed, altered or amended at any annual meeting, by a vote of two-thirds of the members present, provided such repeal, alteration or amendment be proposed at a previous annual meeting.

Article VIII.—*Affiliation with A. M. A.*

This Society shall be an integral part of the American Medical Association, and shall elect delegates and shall transact other necessary business in accordance with the Constitution and By-Laws of the American Medical Association.

Article IX.—*Changes in By-Laws*

The House of Delegates may adopt such By-Laws, not repugnant to this Constitution, and may repeal, alter or amend the same in such manner as a majority of the said House of Delegates at any annual meeting may deem proper.

BY-LAWS

Article I.—*Duties of Officers*

SECTION 1. The President shall preside at all meetings and perform all the duties incident to such office. He shall deliver, or cause to be read, an address or dissertation on some medical subject at the annual meeting at which he presides.

SEC. 2. The Vice-President shall preside in the absence of the President, and shall perform all his duties and possess all his privileges. He shall deliver, or cause to be read, on the first day of the annual meeting, an address on medicine or surgery.

SEC. 3. The Secretary shall keep a record of the proceedings of the Society, and of the members present at each meeting; shall conduct the correspondence; shall procure a stenographer to report the proceedings of each meeting, and shall be paid an annual salary of fifty dollars and necessary expenses. He shall, if unable to attend the meeting of the Society personally, send the records to some member in attendance.

SEC. 4. The Treasurer shall collect from the Treasurer of the County Societies and disburse all moneys of the Society agreeably to the direction of the House of Delegates, and shall make report of his doings to the Society at its annual meeting.

SEC. 5. The Auditor shall examine and verify the accounts of the various officers.

SEC. 6. The Executive Committee shall make selection of a subject or subjects for the program and appoint a Committee of Arrangements of three members for the next ensuing meeting; shall make assignment of parts to any of the members, as in their judgment they think advisable, and report the same to this meeting and to each and every subsequent meeting.

They shall make such other arrangements for the meetings of the Society as they shall deem essential for its best interests.

SEC. 7. The Committee of Arrangements shall be residents of the town where the meeting is to be held. They shall make arrangements for the place of meeting, for a banquet on the evening of the first day, and for space for medical and surgical exhibits, and such other local arrangements as they may deem essential for the success of the meeting.

SEC. 8. The Publication Committee shall receive all papers referred to them by the Society, and as soon as possible subsequent to the annual meeting of the Society shall publish such of those papers as they shall deem best suited to promote the interests of the profession and the public good, under the title Transactions, and perform all other appropriate duties.

SEC. 9. The Committee on Necrology shall report the names of deceased members, and shall cause to be prepared such brief biographies as may in each case be deemed best.

SEC. 10. The Committee on Medical Education shall keep themselves fully informed regarding the standards of Medical Education in the various States; note how there standards compare with those of their own State and embody the facts learned, with any recommendations, in an annual report to the State Society.

SEC. 11. It shall be the duty of the Committee on Legislation to receive and examine all resolutions or proposed laws or acts pertaining to medical legislation which may come up at any meeting, and to report on the same at the meeting then in session; also to have charge of all legislative business of the Society which may properly come before the Legislature for enactment, as the Society may direct.

SEC. 12. It shall be the duty of the Committee on Health and Public Instruction to act with the Council on Health and Public Instruction of the American Medical Association and to spread proper instruction in Public Health matters among the people of this State.

Article II.—*Membership Dues*

SECTION 1. The fiscal year of this Society and of the affiliating County Societies shall begin January 1st.

SEC. 2. Dues are payable January first for the ensuing year. Each County Treasurer shall collect and forward to the State Treasurer with a report of the members whose dues are therewith paid, not later than March 31st of each fiscal year, from each member of his County Society the sum of $4.00 for the State Society, in addition to any amount that may be voted by the County Society for its own use.

SEC. 3. On April first of each year a new roster shall be compiled by the Secretary. This roster shall include the names of only those who have paid their dues in full for the current year. Only those who have so paid their dues shall be considered members in good standing. Those dropped from the previous roster shall be notified by the Secretary.

SEC. 4. Any member who has been dropped from the Society for the non-payment of dues, may be reinstated by paying all arrears.

SEC. 5. No member, who is not in good standing, shall receive any of the publications of the Society and no member shall receive the benefits of the Medico-legal defense provisions of this Society in defense of any act that occurred while he was not in good standing.

SEC. 6. Members who have been in good standing in their County Societies during the preceding 5 years and have reached the age of 65 may be carried as active members of County and State Societies without further payment of dues.

SEC. 7. Any physician joining a component County Medical Society after the 30th of September of any year shall be entitled to all the privileges of this Society for the remainder of the year upon payment of such sums for the County Society as they shall vote and 50 per cent of the annual dues for the Vermont State Medical Society, provided he has never before been a member of a County Society in Vermont.

SEC. 8. That there shall be adopted an uniform system of book and record keeping and this Society shall furnish the County Societies uniform blanks for all compulsory reports, statement and receipts and such other stationery as must be used by the County Societies.

Article III.—*Honorary Members*

The Society may elect at each annual meeting, not more than two honorary members, non-residents of the State, who shall have the same privileges as ordinary members, except that they shall not be eligible to office no have the right to vote.

Article IV.—*Delegates*

Delegates shall be elected annually by the House of Delegates to represent this Society at the annual meetings of the State Medical Societies of the New England States and New York and such other societies as the mutual interests of the societies may direct. A delegate and an alternate shall be elected every even year to represent the Society at the annual meeting of the American Medical Association.

Credentials shall be issued to delegates by the secretary when he is duly notified of the time and place of the meeting they are to attend. In case a delegate is unable to attend the meeting to which he is elected, it shall be his duty to notify the secretary of his inability to attend, and the secretary and president shall appoint another to fill his place.

Article V.—*Discussion of Papers*

One or more members of the Society shall be appointed by the Secretary to open the discussion on each paper to be presented at any meeting.

Article VI.—*Withdrawals*

Any member wishing to withdraw from the Society shall be permitted to do so on his writ-

ten request after he shall have presented the Treasurer's receipt for all moneys due.

Article VII.—*Publication of Constitution*

The Constitution and By-Laws, together with the names and residences of the members in good standing, shall be published in every volume of the Transactions.

Article VIII.—*Obituaries*

The names of deceased members of the Society, with the dates of birth, graduation, admission to membership, death, and such other items in brief, of personal history, as may seem desirable to the Committee on Publication, shall be printed in each copy of the Transactions, under the caption, "In Memoriam."

Article IX.—*Time for Papers*

No author shall consume more than twenty minutes in reading or presenting a paper, and no one shall speak more than five minutes in the discussion of a paper, without unanimous consent of the members present.

Article X.—*Addresses Property of Society*

All addresses and papers presented in the County and State Societies thereby become the property of the State Society, and shall be placed in the hands of the Secretary within one week after the meeting, for insertion in the Transactions.

Article XI.—*Order of Business*

The program as prepared by the Executive Committee and published in accordance with the By-Laws by the Secretary shall constitute the order of business, and can not be changed or suspended, except for a definite purpose, a limited time and by a two-thirds vote of the members present.

Article XII.—*Exhibitions*

The Committee of Arrangements of each annual meeting shall grant the privileges of exhibition, under the auspices of the Society, only to such pharmaceutical preparations as are recognized by the United States Pharmacopoeia, or are not protected by trade mark, secrecy of preparation or other exclusive proprietorship.

Article XIII.—*The Council*

SECTION 1. The Council shall consist of the President, Secretary and Treasurer of this Society, and of four Councillors elected from four Districts as follows; 1st District to consist of Grand Isle, Franklin, Chittenden and Addison Counties. 2nd District — Rutland, Bennington and Windham. 3rd District — Orleans, Orange, Essex and Caledonia. 4th District — Lamoille, Washington and Windsor.

The Councillors from the 1st and 3rd Districts shall be elected on the odd years to serve two years and those from the 2nd and 4th Districts shall be elected on the even years to serve two years.

In the year 1914 Councillors shall be elected from the 1st and 3rd Districts to serve for one year only.

SEC. 2. The Council shall manage the affairs of this Society when the House of Delegates is not in session.

The meetings of the Council shall be called by the President at his discretion or upon the written request of ten members of the Society.

SEC. 3. Each Councillor shall be organizer and peacemaker for his district. He shall visit the counties in his district at least once a year for the purpose of enquiring into the conditions of the profession and for improving and increasing the zeal of the county societies and shall aid the officers of the county societies in his district in increasing the membership and shall make an annual report of the conditions of the profession in his district and of the county societies therein to the House of Delegates.

The necessary traveling expenses incurred by such councillors in the line of duties herein impossed shall be allowed upon the approval of the President and Secretary but this shall not be construed to include his expenses in attending the annual meeting of the Society.

Article XIV.—*Members from No-Society Counties*

In counties not having a society, any physician in good standing may become a member of the society of any adjoining county.

Article XV.—*Reports of House of Delegates*

The House of Delegates shall report through its Clerk its actions to the Society at the opening of each session, provided the House of Delegates shall have held a session prior to that time and shall present through its Clerk a report of all its actions to the Secretary of the Society, which report shall be a part of the records and published in the Transactions.

Article XVI.—*Transfers*

When a member of a county Society desires to join the society in another country, he may be allowed to do so upon a favorable vote of both the society to which he geographically belongs, and of the County Society which he wishes to join.

Article XVII.

SECTION 1. The State Society may defend its members sued for malpractice.

SEC. 2. It shall be the duty of the medico-legal committee to investigate and defend suits against members in god standing for alleged malpractice.

SEC. 3. The Society will pay all costs of the defence of such a suit, including the furnishing of the Society's attorney, and all necessary court and witness fees, provided the defendant member complies with these By-Laws; and provided it does not appear that the claim made is a just one.

SEC. 4. As soon as a member is threatened, or if not threatened, as soon as action is commenced, he must make immediate written communication with the Secretary of the Committee, giving a full and complete statement of all the facts in the case and authorizing the Society to defend the action.

The defendant shall not incur any expense, or interfere in any subsequent legal proceedings without the consent of the Society, previously given in writing. And when requested by the Society, or its attorney, such deefndant shall aid in securing evidence, the attendance of witnesses, and in prosecuting appeals.

SEC. 5. In no case will the Society pay damages, or any award or compromise, effected out of court, with or without its consent and advice. And if any case should not be defended according to the tenor of these By-Laws, no action shall lie against the Society for any liability therefor, unless it shall be brought by such defendant for expense actually sustained and paid in money by him, and within ninety days after final judgment in his favor is rendered upon trial of the issue.

SEC. 6. In case of payment of taxable costs by the Society, the Society shall be subrogated to the extent of such payment to all rights of recovery by the deefndant against the plaintiff, his surety or sureties for costs, or their estates.

BY-LAWS AND REGULATIONS OF HOUSE OF DELEGATES

1st. The officers of this bady shall consist of a President, two Vice-Presidents and a Secretary, all of whom shall be elected from members whose tenure of office as delegates does not expire during the year for which they are severally elected.

2nd. The duties of officers shall be the same as those of similar officers in other like organizations, and the Secretary shall at the close of the session turn over the records to the Secretary of the State Meical Society.

3rd. The first meeting of the House of Delegates at each annual meeting of the Society, shall be held at 5 p. m. of the first day.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1916-1917

Next Annual Session New York City, June 4-8, 1917

President—Rupert Blue, Washington, D. C.

President-Elect—Charles H. Mayo, Rochester, Minn.

First Vice-President—L. F. Barker, Baltimore.

Second Vice-President—John Leeming, Chicago.

Third Vice-President—J. Henry Carstens, Detroit, Mich.

Fourth Vice-President—George F. Keiper, Lafayette, Ind

Secretary—Alexander R. Craig, 535 N. Dearborn St., Chicago.

Treasurer—William Allen Pusey, Chicago.

Chairman, House of Delegates—Hubert Work, Pueblo, Colo.

Vice-Chairman, House of Delegates—Dwight H. Murray, Syracuse, N. Y.

Editor and General Manager—George H. Simmons, 535 N. Dearborn St., Chicago.

Board of Trustees—Philip Marvel, Atlantic City, 1917; *Philip Mills Jones, San Francisco, 1917; W. T. Sarles, Sparta, Wis., 1917; M. L. Harris, Secretary, Chicago, 1918; W. T. Councilman, Chairman, Boston, 1918; Thomas McDavitt, St. Paul, 1918; A. R. Mitchell, Lincoln, Neb., 1919; E. J. McKnight, Hartford, Conn., 1919; Oscar Dowling, Shreveport, La., 1919.

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*Deceased.

Judicial Council—Randolph Winslow, Baltimore, 1917; A. B. Cooke, Los Angeles, Calif, 1918; Alexander Lambert, Chairman, New York, 1919; James E. Moore, Minneapolis, Minn., 1920; H. A. Black, Pueblo, Colo., 1921; Alexander R. Craig, Secretary, 535 N. Dearborn St., Chicago.

Council on Health and Public Instruction—Walter B Cannon, Boston, 1917; W. S. Rankin, Raleigh, N. C., 1918; H. M. Bracken, Minneapolis, 1919; Milton Board, Louisville, Ky., 1920; Frank Billings, Chairman, Chicago, 1921; Frederick R. Green, Secretary, 535 N. Dearborn St., Chicago.

Council on Medical Education—James W. Holland, Philadelphia, 1917; H. D. Arnold, Boston, 1918; Arthur D. Bevan, Chairman, Chicago, 1919; Robert C. Coffey, Portland, Ore., 1920; W. D. Haggard, Nashville, Tenn., 1921; N. P. Colwell, Secretary, 535 N. Dearborn St., Chicago.

Council on Scientific Assembly—E. S. Judd, Rochester, Minn., 1917; Roger S. Morris, Cincinnati, 1918; George H. Simmons, Chairman, Chicago, 1919; J. Shelton Horsley, Richmond, Va., 1920; Alexander R. Craig, Secretary of the Assocation, *ex-officio.*

Council on Pharmacy and Chemistry—David L. Edsall, Boston, 1918; R. A. Hatcher, New York City, 1918; A. W. Hewlett, San Francisco, 1918; John Howland, Baltimore, 1919; Henry Kraemer, Philadelphia, 1919; C. L. Alsberg, Washington, D. C., 1919; G. W. McCoy, Washington, D. C., 1920; F. G. Novy, Ann Arbor, Mich., 1920; George H. Simmons, Chairman, Chicago, 1920; L. G. Rowntree, Minneapolis, 1921; Torald Sollmann, Cleveland, 1921; Lafayette B. Mendel, New Haven, 1921; Reid Hunt, Boston, Mass., 1922; J. H. Long, Chicago, 1922; Julius Stieglitz, Chicago, 1922; W. A. Puckner, Secretary, 535 N. Dearborn St., Chicago.

OFFICERS OF THE VERMONT STATE MEDICAL SOCIETY

President, C. H. Beecher, Burlington.
Vice-President—C. W. Howard, Shoreham.
Secretary—Wm G. Ricker, St. Johnsbury.
Treasurer—E. H. Martin, Middlebury.
Auditor—A. S. Patch, Windsor.
Counsellors—1st Dist., E. J. Melville, St. Albans; 2nd Dist., S. W. Hammond, Rutland; 3rd Dist., R. M. Wells, Orleans; 4th Dist., C. J. Rumrill, Randolph.
Executive Committee—Wm. G. Ricker, St. Johnsbury; O. G. Stickney, Barre; C. S. Leach, Hyde Park.
Publication Committee—Wm. G. Ricker, St. Johnsbury; A. S. M. Chisholm, Bennington; E. H. Martin, Middlebury.
Legislative Committee—F. W. Sears, Burlington; W. N. Bryant, Ludlow; H. H. Swift, Pittsford.
Medical Education Committee—J. J. Derven (1917), Poultney; G. C. Reublee (1918), Hardwick; F. E. Clark (1919), Burlington.
Necrology Committee—E. D. Ellis, Poultney; J. D. Hanrahan, Rutland; M. H. Eddy, Middlebury.
Medico-Legal Committee—J. N. Jenne (1917), Burlington; Wm. Bryant (1918), Ludlow; E. A. Hyatt (1917), St. Albans.
Health and Public Instruction Committee—C. F. Dalton, Grace Sherwood, J. J. Derven, J. A. Stevenson, Charlotte Fairbanks.
Delegates to Connecticut River Valley Medical Association—A. L. Miner.
Delegates to Maine State Medical Society—T. R. Stiles.
Delegate to New Hampshire Medical Society—D. S. Drake.
Delegate to Massachusetts Medical Society—E. L. Osgood.
Delegate to Connecticut State Medical Society C. W. Howard.
Delegate to Rhode Island Medical Society—G. R. Anderson.
Delegate to Medical Society of the State of New York—J. A. Stevens.
Anniversary Chairman—J. H. Blodgett, Bellows Falls.
Nominees for Board of Medical Examiners—W. S. Nay, Underhill; W. L. Havens, Chester.
Delegate to A.M.A.—Alan Davidson, St. Albans.
Alternate to A.M.A.—F. T. Kidder, Woodstock.

OFFICERS OF THE HOUSE OF DELEGATES

President—P. E. McSweeney, Burlington.
First Vice-President—F. T. Kidder.
Second Vice-President—W. E. Lazelle.
Secretary—R. E. Steele.

VERMONT MEDICINE

Editor—A. S. M. Chisholm, Bennington.
Business Manager—Jas. M. Mamilton, Rutland.

1917 Roster

(Corrected to April 1st, 1917.)

ADDISON COUNTY MEDICAL SOCIETY

OFFICERS

President—Mary A. Mixer Platt, Shoreham.
Vice-President—Leonard Blake Rowe, Orwell.
Secretary and Treasurer—Edward Homer Martin, Middlebury.
Librarian—Merritt Henry Eddy, Middlebury.
Delegates—Harold Lyman Williamson, Bristol (one year); Charles Willard Howard, Shoreham (two years); Stanton Seeley Eddy, Middlebury (two years).
Alternates—Vance William Waterman, Vergennes (one year); Leonard Blake Rowe, Orwell (two years).

MEMBERS

Blaisdell, Edson George .....Bridport
Briggs, Frank T. .....Bristol
Bump, Orlo Myron .....Salisbury
Campbell, John Lincoln .....Warren
Carroll, Dennis James .....Vergennes
Collins, George Pease .....Ferrisburg
Dean, Charles Henry .....Salisbury
Dorey, Peter Leo .....Middlebury
Eddy, Merritt Henry .....Middlebury
Eddy, Stanton Seeley .....Middlebury
Edmunds, George F. .....Bristol
Howard, Charles Willard .....Shoreham
Martin, Edward Homer .....Middlebury
Norton, Anson Mortimer .....Bristol
Phelps, Frank Cooley .....Vergennes
Pilon, Edward .....Vergennes
Platt, Mary A. Mixer .....Shoreham
Porter, Edward O. .....Cornwall
Rowe, Leonard Blake .....Orwell
Sharon, Isaac Paul .....Shoreham
Wade, Henry .....Starksboro
Waterman, Vance William .....Vergennes
White, Walter James .....Middlebury
Williamson, Harold Lyman .....Bristol
(24 members.)

Fixed Meetings.—First Thursday of January and July (annual), and upon call of Secretary.

BENNINGTON COUNTY MEDICAL SOCIETY

OFFICERS

President.—Henry Skinner Goodall, Bennington.
Vice-President.—Linwood Major Kelley, Manchester.
Secretary and Treasurer.—Lucretius Henry Ross, Bennington.
Delegates—Frederic C. Liddle, Dorset (one year); Joel Brown Woodhull, N. Bennington (two years).
Auditor—Daniel Vincent O'Donnell, Bennington.

MEMBERS

Bartlett, Clayton Witters .....Bennington
Calahan, Luther John .....Manchester
Campbell, Claude Melnotte .....Manchester
Chisholm, Adam Stuart Muir ....Bennington
Cochrane, John I. .....East Dorset
Daley, Emmett Burr .....Bennington
Dean, Frank Edward .....S. Shaftsbury
Flood, William Arthur .....N. Bennington
Gleason, David A. .....N. Bennington
Goodall, Henry Skinner .....Bennington
Kelley, Linwood Major ....Manchester Center
Liddle, Frederick C. .....Dorset
O'Donnell, Daniel Vincent .....Bennington
Potter, Everett Eli .....N. Pownal
Putnam, Warren Edward .....Bennington
Ross, Lucretius Henry .....Bennington
Russell, George Albert .....Arlington
Trull, Edgar Valentine .....Manchester
Wilson, John R. .....Bennington
Woodhull, Joel Brown .....N. Bennington
Wright, Allen Henry,
North Adams, Mass., R. F. D.
(21 members.)

Fixed Meetings.—Second Wednesday of January, April, July (annual) and October.

CALEDONIA COUNTY MEDICAL SOCIETY

OFFICERS

President—Frank Emerson Farmer, St. Johnsbury.
Vice-President—David Russell Brown, Lyndonville.

Secretary and Treasurer—Hugh Harold Miltimore, St. Johnsbury.

Delegates—Frank Emerson Farmer, St. Johnsbury (two years); Albertus Allen Cheney, Lyndonville (one year); Edward Harlan Ross, St. Johnsbury (one year); John Milton Allen, St. Johnsbury (one year).

Censor—Edward Harlan Ross, St. Johnsbury.

Alternates—Appointed by delegate if unable to attend.

MEMBERS

Aldrich, Walter Johnson .....St. Johnsbury
Allen, John Milton .....St. Johnsbury
Brown, David Russell .....Lyndonville
Burke, Robert H. .....St. Johnsbury
Cheney, Albertus Allen .....Lyndonville
Cramton, Charles Augustus .. St. Johnsbury
Crane, Edward M. .....Hardwick
Darling, George Washington ..South Ryegate
Davis, Fred H. .....Lyndonville
Eliot, Henry Augustus .....Barnet
Fairbanks, Charlotte .....St. Johnsbury
Farmer, Frank Emerson .....St. Johnsbury
Ferris, Alson David .....Hardwick
Fitch, Willis Bryan .....St. Johnsbury
French, George B. .....Concord
Gibson, John Mitchell .....McIndoe's Falls
Johnson, Russell T. .....West Concord
Kinney, Albert Clark .....Hardwick
Kinney, Frederick Cushman ..Greensboro Bend
Leonard, Archie Lee .....Lyndon
Libby, Charles E. .....Danville
McKinley, Leslie Edwin .....St. Johnsbury
McSweeney, Roland M. .....St. Johnsbury
Miltimore, Hugh Herald .....St. Johnsbury
Pache, Henri L. .....Danville
Prevost, Charles A. .....St. Johnsbury
Ricker, William Gray .....St. Johnsbury
Ross, Edward Harlan .....St. Johnsbury
Rublee, George Clark .....Hardwick
Stiles, Truman Ransom .....St. Johnsbury
Walsh, Frank M. .....St. Johnsbury
Wesley, John Willard .....St. Johnsbury
Woodman, A. B. .....Wells River

(33 members.)

Fixed Meetings.—Second Tuesdays of January, April and July and third Tuesday of October (annual).

BURLINGTON AND CHITTENDEN CLINICAL SOCIETY

OFFICERS

President—Ernest Hiram Buttles, Burlington.

Vice-President—Frederick William Sears, Burlington.

Secretary and Treasurer—Oliver Newell Eastman, Burlington.

Executive Committee—Frederick Kinney Jackson, Burlington; George Millar Sabin, Burlington; F. H. Platt, Burlington.

Delegates—David Marvin, Essex Junction (two years); Francis Joseph Arnold, Burlington (two years); Patrick Eugene McSweeney, Burlington (one year); Bingham Hiram Stone, Burlington (one year); Fred E. Clark, Burlington (one year).

Alternates—Henry Abner Ladd, Burlington (two years); Charles Kimball Johnson, Burlington (two years); Robert Leland Maynard, Burlington (two years); George Octave Contu, Burlington (two years); Daniel A. Shea, Burlington (one year); George Benjamin Hurlburd, Jericho (one year); Linman Clayton Holcomb, Milton (one year).

MEMBERS

Adams, Benjamin Dyer .....Burlington
Allen, Lyman .....Burlington
Allen, Truman James .....Waterbury
Arnold, Francis Joseph .....Burlington
Beecher, Clarence Henry .....Burlington
Berry, Walter D. .....Burlington
Bombard, Bird Joseph Arthur ....Burlington
Branch, George Harvey .....Grand Isle
Brown, Edmund Towle .....Burlington
Brown, Thomas Stephen .....Burlington
Buttles, Ernest Hiram .....Burlington
Caldwell, Nathan Renwick .....Burlington
Caron, Napoleon J. .....So. Hero
Clark, Fred E. .....Burlington
Coburn, Irving Smith .....Milton
Contu, George Octave .....Burlington
Crossman, Edgar O. .....Burlington
Dalton, Charles Francis .....Burlington
Dodds, John Hazen .....Burlington
Eastman, Oliver Newell .....Burlington
Englesby, William Hudson, ...Burlington
Ennis, Frank .....Burlington
Flagg, Robert Cushman .....Essex

Forbes, George Isaac .....Burlington
Hawley, Donly Curtis .....Burlington
Hays, Thomas Embelton .....Burlington
Holcomb, Linman Clayton .....Milton
Hopkins, Harry D. .....Waterbury
Howard, Sue Emma Hertz .....Burlington
Hurlburd, George Benjamin .....Jericho
Hunter, John Alexander .....Essex Junction
Jackson, Frederick Kinney .....Burlington
Johnson, Charles Kimball .....Burlington
Johnson, Robert William .....Burlington
Ladd, Henry Abner .....Burlington
Lane, Edward Stevens .....No. Ferrisburg
Larner, Arthur Leo .....Burlington
Lyman, William Anderson .....Burlington
Marvin, David .....Essex Junction
Maynard, Robert Leland .....Burlington
McSweeney, Patrick Eugene .....Burlington
Mitchell, William Hayes .....Shelburne
Morrison, Lawrie Byron .....Burlington
Morrison, Sidney Leon .....Burlington
Nay, Winfield Scott .....Underhill
Pease, Clifford Atherton .....Burlington
Platt, F. H. .....Burlington
Rich, Frank Abiram .....Burlington
Rist, Gilbert Frank .....Burlington
Sabin, George Millar .....Burlington
Sears, Frederick William .....Burlington
Shea, Daniel A. .....Burlington
Smart, Chester .....Burlington
Sparhawke, Sam .....Burlington
St. Antoine, Eugene .....Burlington
Stone, Bingham Hiram .....Burlington
Tanner, James Drummond .....Burlington
Tilley, William Taft .....Richmond
Tinkham, Henry Crain .....Burlington
Twitchell, Emmus G. C. .....Burlington
Twitchell, Marshall Coleman .....Burlington
Watkins, Harris Ralph .....Burlington
Wheeler, John Brooks .....Burlington
Whitney, Charles Flagg .....Burlington
Wilder, Henry Lawrence .....Burlington

(65 members.)

Meetings.—As arranged by the Executive Committee, usually the last Thursday of each month except July and August. Annual meeting in September.

FRANKLIN COUNTY MEDICAL SOCIETY

OFFICERS

President—Edwin Arnold Hyatt, St. Albans.
Vice-President—Howard Horace Johnson, Franklin.
Secretary and Treasurer—Waldo Jesse Upton, St. Albans.
Censors—Edwin Merriam Brown, Sheldon; Arthur Oscar Morton, St. Albans; Herbert Lorenzo Pierce, Swanton.
Delegates—Alan Davidson, St. Albans; Edmund Rushmore Lape, Swanton; Raymond Brown Thomas, Enosburg Falls; Winfred Harmon Wright, Georgia.
Alternates—Edwin Arnold Hyatt, St. Albans; Abraham Lincoln Cross, Swanton; Rollin Milo Pelton, Richford; William Watson Hutchinson, Enosburg Falls.

MEMBERS

Abell, Charles Gordon .....Enosburg Falls
Allen, Clarence E. .....Swanton
Arnold, William B. .....St. Albans
Berkley, George Carlton .....St. Albans
Brown, Edwin Merriam .....Sheldon
Caisse, John Marie .....Swanton
Cross, Abraham Lincoln .....Swanton
Davidson, Alan .....St. Albans
Hall, James B. .....Franklin
Hanson .....E. Berkshire
Hinman, H. D. .....Enosburg Falls
Hutchinson, William Watson ..Enosburg Falls
Hyatt, Edwin Arnold .....St. Albans
Hyde, William B. .....Bakersfield
Johnson, Cyrus Ulysses .....West Berkshire
Johnson, Howard Horace .....Franklin
King, James Samuel .....Isle La Motte
Lape, Edmund Rushmore .....Swanton
Loftus, Claude Anthony .....St. Albans
Lunderville, Evroy Paul .....Richford
Martin, Seth H. .....Alburgh
Mason, Frederick Walter ..Great Neck, L. I.
Milville, Edmund J. .....St. Albans
Montefiore, Herbert N. .....St. Albans
Morton, Arthur Oscar .....St. Albans
Norris, Francis William .....St. Albans
Paige, Stephen William ..... St. Albans
Pelton, Rollin Milo .....Richford
Perrault, Joseph G. .....St. Albans
Pierce, Herbert Lorenzo .....Swanton
Pratt, Chas. Ai .....Enosburg Falls
Scofield, Columbus Sewell .....Richford

Sherwood, Grace W. .....St. Albans
Thomas, Raymond Brown .....Enosburg Falls
Upton, Waldo Jesse .....St. Albans
Welch, Rodman E. .....Franklin
Wright, Winfred Harmon .....Georgia
Worden, R. D. .....Montgomery

(38 members.)

Fixed Meetings.—Second Wednesday of May (annual) and third Wednesday in September.

LAMOILLE COUNTY MEDICAL SOCIETY

OFFICERS

President.—Chester Sylvester Leach, Hyde Park.
Vice-President.—Wm. Taft Slayton, Morrisville.
Secretary and Treasurer.—Alden Vernon Cooper, Walcott.
Delegate.—Geo. Lucian Bates, Morrisville.
Alternate.—Wm. Taft Slayton, Morrisville.
Censors.—Chas. Wright Bates, Morrisville; John Milton Stevens, Hyde Park; George Lucien Bates, Morrisville.

MEMBERS

Barrows, Harry Willard .....Stowe
Bates, Chas. Wright .....Morrisville
Bates, George Lucian .....Morrisville
Cooper, Alden Vernon .....Walcott
Holcomb, Lyndhurst Prime .....Johnson
Leach, Chester Sylvester .....Hyde Park
Maurice, Geo. Byron .....Waterville
Prentiss, Roger Gaylord .....Johnson
Slayton, Wm. Taft .....Morrisville
Stevens, John Milton .....Hyde Park
Valleau, Archibald J. .....Morrisville

(11 members.)

Fixed Meetings.—First Wednesday of January and July.

ORLEANS COUNTY MEDICAL SOCIETY

OFFICERS

President—Albert Duane Longe, Newport.
Vice-President—
Secretary and Treasurer—James Frank Blanchard, Newport.
Alternates—Ransom Willis Adams, Newport Center (two years); H. E. Sargent, Island Pond (one year).
Censors—Ozias Boynton Gould, Newport; A. M. Goddard, Albany; J. F. Blanchard, Newport.

MEMBERS

Adams, Ransom Willis .....Newport Center
Aldrich, Fred Noble .....Derby
Blanchard, James Frank .....Newport
Butterfield, A. M. .....North Troy
Erwin, Charles Lovejoy .....Newport Center
Gatchell, Robert A. .....Beebe Plains
Gould, Ozias Boynton .....Newport
Longe, Albert Duane .....Newport
Somers, Henry Elijah .....West Derby
Wells, Robert Moore .....Orleans
Wright, Joel Fitz .....Orleans

(11 members.)

Annual Meeting.—Second Wednesday in May

RUTLAND COUNTY MEDICAL SOCIETY

OFFICERS

President—James Stuart Eastwood, Brandon.
Vice-President—William Stickney, Rutland.
Secretary and Treasurer—Frederick Henry Gebhardt, Rutland.
Auditor—Hiram L. Manchester, Pawlet.
Censors—Charles Alson Gale, Rutland; William Henry Grinnell, Danby.
Delegates—Edward James Rogers, Pittsford (two years); Schuyler Weston Hammond, Rutland (two years); Charles Henry Swift, Rutland (one year); Thomas Henry Hack, Proctor (one year).
Alternates—John Joseph Dervin, Poultney (two years); Clarence Franklin Ball, Rutland (two years); Charles E. Griffin, Fair Haven (one year).

MEMBERS

Baker, Orville Clark .....Brandon
Ball, Clarence Franklin .....Rutland
Bellerose, Alberic Hyacinth .....Rutland
Bryant, William Nelson .....Ludlow
Caverly, Charles Solomon .....Rutland
Chellis, Ernest O. .....Rutland
Clark, Edward Russell .....Castleton
Clough, Osgood Flint .....Poultney

Colby Bernie Dennis .....Sudbury
Cootey, Sherwin Aldrich .....Wallingford
Cootey, Thomas Albert .....Rutland
Delehanty, Nicholas James .....Rutland
Dervin, John Joseph .....Poultney
Eastwood, James Stewart .....Brandon
Ellis, Edward D. .....Poultney
Estabrook, John Wesley .....Brandon
Everett, Frank H. .....Castleton
Fleming Charles F.....West Rutland
Gale, Charles Alson .....Rutland
Gebhardt, Frederick Henry .....Rutland
Gilchrist, Oscar James .....Rutland
Griffin, Charles E. .....Fair Haven
Grinnell, William Henry .....Danby
Hack, Thomas Henry .....Proctor
Hagan, Thomas Joseph .....Pittsford
Hall, Edgar Ianson .....Rutland
Hamilton, James Madison .....Rutland
Hammond, Schuyler Weston .....Rutland
Hanrahan, Hugh Henry .....Rutland
Hanrahan, John David .....Rutland
Heidel, Louis Albertas .....Rutland
Hodsdon, Walter Grant .....Rutland
Horner, John Smith .....West Pawlet
Hudson, Elmo Jerome ...Middletown Springs
Lape, Rushmore .....Fairhaven
Larner, Thomas Edward .....Rutland
Manchester, Hiram L. .....Pawlet
Marshall, George Guerin .....Rutland
Martyn, Herbert S. .....Cuttingsville
Miller, John Henry .....Wallingford
Newton, Jasper P. .....Benson
Norton, A. C. .....Middletown Springs
Parkhurst, George Davenport ....Fair Haven
Perry, Clarence C. .....West Rutland
Pierce Duane Charles .....Ludlow
Pond, Edmund Morse .....Rutland
Powers, Bradford Cleaver .....Rutland
Quigley, Frances Edward .....Rutland
Rogers, Edward James .....Pittsford
Ross, Carroll Baldwin .....West Rutland
Rustedt, George .....Rutland
Russell, Frederic J. .....Brandon
Ryan, Harry Richard .....Rutland
Seeley, Ralph Hunt .....Castleton
Smith, Ray Ernest .....Rutland
Smith, Clifton Henry .....West Rupert
Stewart, William E. .....Wallingford
Stickney, William .....Rutland
Swift, Charles H. .....Rutland
Swift, Henry Haven .....Pittsford
Thomson, Jesse Eugene .....Rutland
Townsend, William Warren .....Rutland
Warren, Charles Bertram .....West Rutland

(63 members.)

Fixed Meetings.—Second Tuesday of January, April and July (annual) and third Tuesday of October.

WASHINGTON COUNTY MEDICAL SOCIETY

OFFICERS

President—George Smith Bidwell, Waterbury.
Vice-President—Clarence Harvey Burr, Montpelier.
Secretary and Treasurer—Harlow Adolphus Whitney, Northfield.
Auditor—DeForest Clinton Jarvis, Barre.
Censors—Myron Leonard Chandler, Barre; Albion Arthur Cross Williamstown.
Delegates—Fred E. Steele, Jr., Waterbury (two years); Joseph Wells Jackson, Barre (two years); William Edwin Lazelle, Barre (two years); William Lindsay, Montpelier (one year); Frank C. Angell, Randolph (one year); John H. Woodruff, Barre (one year).
Alternates—Nathan Elmore Avery, E. Barre (two years); John H. Judkins, Northfield (two years); Michael F. McGuire, Montpelier (one year); Clinton J. Rumrill, Randolph (one year); Augustus T. Marshall, Chelsea (one year).

MEMBERS

Allen, Leon B. .....Post Mills
Angell, Frank C. .....Randolph
Archambault, F. X. Zenon .....Barre
Avery, Nathan Elmore .....East Barre
Bailey, Ernest Harry .....Graniteville
Bidwell, George Smith .....Waterbury
Bisbee, Arthur B. .....Montpelier
Burbank, Lester Warren .....Cabot
Burr, Clarence Harvey .....Montpelier
Carver, Herbert Sales .....Barre
Chandler, Charles E. .....Montpelier
Chandler, Charles Porter .....Montpelier
Chandler, Myron Lenard .....Barre
Colton, Edwin A. .....Montpelier
Corson, Frank Earl .....Marshfield
Cross, Albion Arthur .....Williamstown
Dewey, Julius Edward .....Montpelier
Russell, F. J. .....Brandon

Gifford, John P. .....Randolph
Goodrich, Vernon Clayton.....Barre
Hall, George Guy .....So. Woodbury
Hanson, Lester Warren .....Montpelier
Harriman, Frederick Whitmore ....Montpelier
Hunt, Chauncey Earle .....Montpelier
Jackson, Joseph Wells .....Barre
Jarvis, DeForest Clinton .....Barre
Judkins, John H. .....Northfield
Lazelle, William Edwin .....Barre
Lindsay, William .....Montpelier
Marshall, Augustus T. .....Chelsea
McGuire, Michael Francis .....Montpelier
Mitchell, Sidney .....So. Stratford
Newcomb, Leo Alexander .....Montpelier
Newell, Herbert Llewellan ....East Randolph
Parmenter, George Homer .....Montpelier
Reid, William D. .....Barre
Robinson, Carl F. .....Williamstown
Rowland, Wm. Rothven .....E. Corinth
Rumrill, Clinton J. .....Randolph
Scott, George Worthington .....Randolph
Sprague, Edward George .....Barre
Stanley, Eugene A. .....Waterbury
Steele, Fred E., Jr. .....Waterbury
Stewart, John Wm. .....Barre
Stickney, Orlando Greenleaf .....Barre
Turner, Warren D. .....Worcester
Wark, Joseph Arthur .....Barre
Wasson, Watson Lowell .....Waterbury
Watson, Horace Londers .....Montpelier
Whitney, Harlow Adolphus .....Northfield
Woodruff, John Hamilton .....Barre

(51 members.)

Fixed Meetings.—Second Tuesday in March, June, September (annual) and December.

WINDHAM COUNTY MEDICAL SOCIETY

OFFICERS

President.—William F. Hazelton, Bellows Falls.
Vice-President.—F. L. Osgood, Saxtons River.
Secretary and Treasurer.—G. R. Anderson, Brattleboro.
Censors.—G. H. Gorham, Bellows Falls; L. H. Gillette, Springfield; J. H. Blodgett, Bellows Falls.
Delegates—F. L. Osgood, Townshend (one year); J. S. Hill, Bellows Falls, (one year); J. A. Stevens, Chester (two years); W. F. Hazelton, Bellows Falls (two years).

MEMBERS

Anderson, Geo. Riley .....Brattleboro
Blodgett, John Henry .....Bellows Falls
Bingham, F. L. .....Ludlow
Bowen, Edwin Stratton .....Brattleboro
Bowen, Windsor DeForest ....Saxtons River
Brown,
Burnett, Grace W. .....Brattleboro
Buxton, George Delbert .....Proctorsville
Dunn, Stephen Farrar .....Wilmington
Gilbert, F. L. .....Grafton
Gillette, Leon Henry .....Springfield
Gorham, Geo. H. .....Bellows Falls
Greene, Harry Paul .....Brattleboro
Hamilton, Fremont .....Brattleboro
Hazelton, William F. .....Bellows Falls
Hill, James Sutcliff .....Bellows Falls
Hunter, Geo. B. .....Brattleboro
Lane, Winfred Howard .....Brattleboro
Lawton, Shailer Emery .....Brattleboro
Miller, Ansel I. .....Brattleboro
Miner, Albert Lawrence .....Bellows Falls
Murray, Geo. G. .....Bellows Falls
Osgood, Frederick Luke .....Saxtons River
Osgood, Fred Luther .....Townshend
Ray, Chas. Wm. .....Chester
Rice, Thomas .....Brattleboro
Rudden, John Thomas .....Bellows Falls
Stevenson, John Archibald .....Chester
Tucker, Henry .....Brattleboro
White, B. E. .....Brattleboro

(30 members.)

WINDSOR COUNTY MEDICAL SOCIETY

OFFICERS

President—Arthur Lionel Patch, Windsor.
Vice-President—Otto Vernon Greene, Bethel.
Secretary and Treasurer—Dean Spencer Drake, White River Junction.
Delegates—Fred Thomas Kidder, Woodstock (two years); Chas. E. Buchanan, Felchville (one year).
Alternates—H. C. Jackson, Woodstock (two years); Olin Duane Greene, Bethel.

MEMBERS

Brewster, John Densmore .....Windsor
Buchanan, Chas. E. .....Felchville
Burnett, Daniel L. .....Hartford
Burnham, A. W. .....Windsor

Burrell, Edmund Clay .....Barnard
Chase, Rolla Miner .....Bethel
Drake, Dean Spencer ....White River Junction
Eastman, Albert Clinton .....Woodstock
Edmunds, Fred A. ....Bethel
Fish, Edgar John .....So. Royalton
Gartland, Thomas Francis,
White River Junction
Greene, Olin Duane .....Bethel
Greene, Otto Vernon .....Bethel
Hazen, Cryus Hamilton .....Springfield
Huntington, William Millett .....Rochester
Jackson, H. C. .....Woodstock
Kidder, Fred Thomas .....Woodstock
Merriam, C. E. .....Rochester
Patch, Arthur Lionel .....Windsor
Roberts, Geo. X. .....Chester
Rogers, Verne Mooers .....Quechee
Stone, Everett Joseph .....Sharon

(22 members).

Annual Meeting.—Third Tuesday in May.

Total membership of the Vermont State Medical Society, 369.

HONORARY MEMBERS OF THE VERMONT STATE MEDICAL SOCIETY

Conn, G. P. .....Concord, N. H., 1869
Watson, H. P. .....Manchester, N. H., 1887
Ramson, J. B. .....Dannemora, N. Y., 1889
Field, A. E. .....Barre, Vt., 1890
Douglas, O. B. .....Concord, N. H., 1891
Crothers, T. D. .....Hartford, Conn., 1892
Lyon, E. M. .....Plattsburgh, N. Y., 1892
Irish, J. C. .....Lowell, Mass., 1894
Shattuck, Frederick C. ..Boston, Mass., 1894
Porter, William H. ....New York City, 1895
Gordon, S. C. .....Portland, Me., 1895
Marcy, Henry O. .....Boston, Mass., 1896
Mabon, William ....Ogdensburg, N. Y., 1897
Stearns, Henry P. ....Hartford, Conn., 1899
Richardson, Maurice H. ..Boston, Mass., 1899
Lockhart, F. A. L. .....Montreal, 1899
Cook, Geo. H. .....Natick, Mass., 1901
Weeks, S. H. .....Portland, Me., 1901
Wiggin, F. H. .....New York City, 1901
Gordonier, H. C. .....Troy, N. Y., 1902
Crowell, H. L. .....Kansas City, Mo., 1903
Emerson, Francis P. ....Boston, Mass., 1904
Scudder, Chas L. .....Boston, Mass., 1905
LeFevre, Egbert .....New York City, 1906
Arnold, H. D. .....Boston, Mass., 1906
Gile, J. M. .....Hanover, N. H., 1907
Pisek, G. R. .....New York City, 1908
Haynes, I. S. .....New York City, 1908
Scripture, E. W. .....New York City, 1908
Cabot, R. C. .....Boston, Mass., 1909
Syms, Parker .....New York City, 1909
Dodd, W. J. .....Boston, Mass., 1910
Lloyd, Samuel .....New York City, 1910
Hodskins, M. B. .....Palmer, Mass., 1911
Crile, G. W. .....Cleveland, O., 1911
Albee, F. H. .....New York, 1911
Golden, John F. .....Chicago, Ill., 1912
Daland, Judson .....Philadelphia, Pa., 1912
Anderson, John F. ..Washington, D. C., 1912
Shaw, Henry L. K. ....Albany, N. Y., 1913
Erdmann, John F. ....New York City, 1913
Adami, J. G. .....Montreal, 1914
Peck, Chas. H. .....New York City, 1914
Bainbridge, Wm. S. ....New York City, 1915
Lovett, Robert W. ..... Boston, Mass., 1915
Eliot, Ellsworth, ...New York City, 1916
Williams, John R. ....Rochester, N. Y., 1916

PRESIDENTS OF THE VERMONT STATE MEDICAL SOCIETY

Porter, Ezekiel .....Rutland, 1814
Gridley, Lelah .....Rutland, 1815
Gridley, Lelah .....Rutland, 1816
Huntington, Ebenezer .....Rochester, 1817
Gallup, Joseph A. .....Woodstock, 1818
Gallup, Joseph A. .....Woodstock, 1819
Gallup, Joseph A. .....Woodstock, 1820
Gallup, Joseph A. .....Woodstock, 1821
Gallup, Joseph A. .....Woodstock, 1822
Gallup, Joseph A. .....Woodstock, 1823
Gallup, Joseph A. .....Woodstock, 1824
Gallup, Joseph A. .....Woodstock, 1825
Gallup, Joseph A. .....Woodstock, 1826
Gallup, Joseph A. .....Woodstock, 1827
Gallup, Joseph A. .....Woodstock, 1828
Shedd, Josiah .....St. Johnsbury, 1829
(No meetings until 1841.)
Burrill, John .....Woodstock, 1841
Burrill, John .....Woodstock, 1842
Dana, Anderson G. .....Brandon, 1843
Dana, Anderson G. .....Brandon, 1844
Eaton, Horace .....Enosburg, 1845
Spaulding, James .....Montpelier, 1846
Spaulding, James .....Montpelier, 1847
Chandler, John L. .....St. Albans, 1848

Chandler, John L. .....St. Albans, 1849
Allen, Charles L. .....Middlebury, 1850
Goldsmith, Middleton .....Rutland, 1851
Palmer, B. W. .....Woodstock, 1852
Thayer, G. W. Jr. .....Northfield, 1853
Warner, E. D. .....New Haven, 1854
Perkins, Joseph .....Castleton, 1855
Carpenter, Walter .....Randolph, 1856
Stevens, H. F. .....St. Albans, 1857
Allen, Charles L. .....Middlebury, 1858
Knights, A. E. .....Springfield, 1859
Morgan, B. F. .....Bennington, 1860
Woodward, Adrian Theodore ..Brandon, 1861
Stiles, J. N. .....Windsor, 1862
Bradford, P. D. .....Northfield, 1863
Fassett, O. F. .....St. Albans, 1864
McCollom, William .....Woodstock, 1865
Warner, E. D. .....New Haven, 1866
Frost, C. P. .....Brattleboro, 1867
Richmond, J. S. .....Woodstock, 1868
Janes, Henry .....Waterbury, 1869
Putnam, S. .....Montpelier, 1870
Upham, Edward Fisk ..West Randolph, 1871
Holton, Henry Dwight ....Brattleobro, 1872
Butler, L. C. .....Essex, 1873
Butler, L. C. .....Essex, 1874
Butler, L. C. .....Essex, 1875
Dunsmore, George .....St. Albans, 1876
Chandler, C. M. .....Montpelier, 1877
Bullard, G. B. .....St. Johnsbury, 1878
Thayer, S. W. .....Burlington, 1879
Jackson, John Henry .....Barre, 1880
Sherwin, O. W. .....Woodstock, 1881
Bingham, Leroy Monroe ....Burlington, 1882
Clark, S. S. .....St. Albans, 1883
Draper, Joseph .....Brattleboro, 1884
Kemp, D. G. .....Montpelier, 1885
Brooks, S. .....St. Johnsbury, 1886
Campbell, Edward R. ....Bellows Falls, 1887
Clarke, John Murray .....Burlington, 1888
Brown, H. S. .....St Johnsbury, 1889
Jenne, James Nathaniel ....St. Albans, 1890
Caverly, Charles Solomon .....Rutland, 1891
Wilder, H. R. .....Swanton, 1892
Bisbee Arthur B. .....Montpelier, 1893
Linsley, Jo Hatch .....Burlington, 1894
Branch, C. F. .....Newport, 1895
Stoddard, Frederick Robert ..Shelburne, 1896
Rogers, Lyman Bennington,1897
Lawton, Shailer E. .....Brattleboro, 1898
Crain, Mark Richards .....Rutland, 1899
Huntington, Wm. D. .....Woodstock, 1900
Wheeler, John Brooks .....Burlington, 1901
Pond, Edmund Morse .....Rutland, 1902
Bryant, William Nelson .....Ludlow, 1903
McSweeney, Patrick Eugene..Burlington, 1904
Chandler, Myron L. .....Barre, 1905
Hawley, Donley Curtis .....Burlington, 1906
Gorham, George H. .....Bellows Falls, 1907
Peck, Chas. W. .....Brandon, 1908
Havens, Walter L. .....Chester, 1909
Tinkham, Henry Crain .....Burlington, 1910
Kidder, Fred Thomas .....Woodstock, 1911
Stone, Bingham Hiram ....Burlington, 1912
Miner, Albert Lawrence ..Bellows Falls, 1913
Townsend, Wm. Warren .....Rutland, 1914
Ross, Edward Harlan ....St. Johnsbury, 1915
Beecher, Clarence Henry ....Burlington, 1916

Vermont Medicine

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Original Papers

TWENTY YEARS' PRACTICAL EXPERIENCE IN OBSTETRICS

By

THOMAS RICE, M.D.

Read before the Brattleboro Clinical Society, January 25, 1917.

In this paper I have tried to avoid text book lore and do not attempt to advance anything new. In the fifteen minutes allowed me I will go over the practice of obstetrics and try to bring out the points that have impressed me as being important. I will divide the subject into pre-natal, the delivery and post-natal.

The first essential is to have the expectant mother in a cheerful, happy frame of mind and to guard her against erroneous ideas that might cause her mental anxiety. We are fortunate here in having a maternity nurse who can do this and prepare the woman for what is to follow and in this way information is passed along to other mothers so that there is a great improvement in prenatal conditions in Brattleboro.

It is always advisable to examine early in pregnancy, especially in the primipara who is married late in life and anxious for children, to make sure that pregnancy exists. I have seen several who have gone through the nine months and have been greatly disappointed. One woman at thirty-five called me at the sixth month. She had had all of the distressing symptoms of pregnancy and her husband had lost his breakfast every morning for several months. She discharged me at once when I told her that she was not pregnant at all and called another doctor who attended to her faithfully for three months when a *specialist* was called who told her that the child had been reabsorbed. That woman went to a lot of expense and changed her whole life only to be the subject of ridicule. Another woman engaged me at the eighth month and when she had gone nearly ten months her nurse brought her to me. She was large enough to have twins; but it was only wind and abdominal fat. A little fore thought on the part of a physician will save a lot of that sort of thing. The patients that give me the greatest trouble without getting relief are those that want children and do not have them. Any suggestion for improvement along this line will be thankfully received by me. A doctor recently in discussing his work seemed greatly pleased in that he had gotten the better of a competitor over a patient pregnant suffering from incessant vomiting, exhaustion, etc. After the other doctor

had tried everything this man cured her by causing her to abort. I have never seen so extreme a case and I do not believe that such cases often exist and I would advise consulting with some good man before I tried such a sure cure. My experience is that the majority of these women want to get rid of the child and that they will go to any extreme to fool the doctor. My treatment is mostly suggestion. I assure the woman that in no case can she lose the child and when she gets that fact well digested she is usually able to take other food like a light lunch when someone awakens her from a sound sleep and she retains enough, usually, so that she does not suffer a lot. The most recent theory by John Cook Hirst is that every woman during sexual activity is constantly absorbing corpus luteum; no sooner is the corpus luteum of one menstrual period disposed of than another appears to take its place. The corpus luteum of pregnancy increases in size for the first three months. then it is gradually absorbed. He assumes that the non-absorption causes the nausea. He cites over thirty cases cured by administration of corpus luteum in varying doses. To me this seems "far fetched" but worth trying.

The conducting of a normal labor is a very simple matter if the doctor does not interfere and get into trouble. Meddlesome obstetrics will give more trouble than abnormal presentations. Nature has arranged things very nicely and her methods are the best adapted for the expelling of the child. The child is enclosed in a sack of fluid which protects it and causes a slow dilatation without injury to the soft parts. In the descent and rotation through the bony parts she will, if you give her time, put a five-inch head through a four-inch pelvis "just as easy" and the doctor that tries to hasten things has taken on a job often times that he would like to give over to someone else. The public has the notion, shared by some doctors, that a normal labor should be hastened. If a doctor has not an abundance of patience he had better leave obstetrics to the man that has that virtue. Too frequent examinations, I think, are due to the uneasiness of the doctor. He forgets to satisfy himself as to whether the child can be born, then as to position, whether vertex, breech or face; degree of dilatation; as to placenta previa, prolapsed cord, foot or arm, prolapsed or displaced cervix. Then to examine again only when necessary, usually when membranes rupture. I examine per vagina. To me it is more satisfactory. The man that must make frequent examinations should examine per rectum. Always empty rectum with a large hot S. S. enema and be sure that the bladder is empty.

Modern obstetrics with the perfection of the cesarian section is far in advance of what it was twenty years ago when mutilation of the child was advocated by some and condemned by others; when too frequent examination caused infection; when doctors would not wait for the engagement and moulding of head before applying instruments. These attempts often failed, leaving the mother lacerated and infected, even though the operator's hands and instruments were steril when he started. Such patients were not good material for a surgeon's reputation when brought to him. A doctor now should call a surgeon before he does anything to infect the woman. Those of you who saw Dr. Anderson do

this operation at the hospital recently will agree with me when I say that I would prefer to see any woman delivered this way than to see her delivered by "difficult forceps." The chances for the child are one hundred times better and the woman's chances are about as good. I believe that the placing of gauze saturated with iodine in the uterus after cesarian section should be the proper procedure because in normal labors cervix is dilated for discharge of lochia and if there is nothing to dilate cervix lochia is apt to be retained and recovery retarded. Forcibly dilating cervix is one of the things that will hasten trouble and lessen chances of a normal delivery and add to the danger of infection. Do not have patients bear down until cervix is dilated and when it is dilated and head is on perinaeum it is usually best not to encourage too much bearing down, for a half hour here is well spent in protecting the floor of pelvis. I am of the opinion that a head held back by supporting perinaeum will be born quicker and with less injury than one allowed to come of itself, or assisted. I have never seen this operation but have had it described by a competent observer. Not for mine. The majority of my patients are delivered in the dorsal position and after the head is delivered I try to get arm nearest pubis and deliver that first—if the other is easier to get I withdraw that first—so that the shoulder or elbow does not rupture the perinaeum. It has been said that the best way to determine a man's fitness for obstetrics is to watch him conduct a breech presentation and delivery and I do not know of anything that will so tax a man's patience and skill. I saw Dr. Miller deliver one of these cases the other day and I envy him—it looked so easy to see him do it. This abnormality occurs in three to four percent of all labors with a large foetal mortality. Complete anesthesia and skilled assistants are necessary before delivery is attempted and if there is any disproportion between the child and pelvis the surgeon should be called to do cesarian section. The doctor that puts forceps on a laterad oblique or where parietal bone presents, thinking he has a vertex, should take up some other line of work where he can see and does not have to depend upon the sense of feeling.

Too much anesthesia should be condemned. I use chloroform in nearly every case and I think that the manner of giving it is the important part and the reason why some do and some do not. When a woman has been in hard pain for several hours and after repeated promises of relief is relieved by a few breaths of chloroform she gains confidence and is amenable to suggestion and a few drops of chloroform and talk gets you through very nicely where you would have had a very hard time. Chloroform has been condemned, taken up and condemned more than anything else in my time, and just now a few of the best men use it and others just as good condemn it; but the latter work in hospitals or where they can use other means that we do not have and cannot get. Where it is necessary to produce complete anesthesia for any cause I advise ether from a new can—not from one that has been opened and exposed to air since the last case. The use of quinine I have given up—never got any effect. I think that it is a uterine tonic, but has not worked well in my hands. Twilight sleep has no place in obstetrical

practice in the country and I think that in a very short time it will be generally condemned. I tried it in its infancy eighteen years ago in the form of H. M. C. tablets and if you want trouble, try them. Pituitary extract has almost no place in obstetrics, while most men use it and there are times when it works like magic. Pituitary extract should be like forceps, only used when there is a well defined reason for its use and should not be used until full dilatation and no obstruction to quick delivery. Giving small repeated doses is not good practice because ruptures of the uterus have been reported and powerful prolonged contraction interferes with placental circulation and should never be given unless there is a strong foetal heart sound, as pressure interferes with circulation through the cord and causes asphyxia of child, if not fatal weakening of the heart's action.

I have been extremely fortunate in obstetrical work in that I have never had a mother or child (full term) die in my own practice. I have seen one mother die in consultation when it was an unavoidable occurrence as the patient had nearly died several times when not pregnant—from heart trouble. I have attended quite a variety of abnormal cases. The one that gave me the most trouble was a monstrosity encephalon, weighing over nine pounds. I have had,

4 spina bifidas
5 placenta previas central
2 transverse—arm presenting
3 face
6 breech presentation,

aside from those cases where I produced version for rapid delivery and only one set of twins, though they were large enough to make up percentage, weighing ten and a half and twelve and a half pounds with one placenta. The first placenta previa was at six months. I separated placental margin and tamponed vagina. The 2 and 5 I was called at term on account of hemorrhage and went in and did version. In 3 and 4, had time to call assistants. The mothers are all living and all the children except first. Should I ever get another I would take her to the hospital and call a surgeon. I have had a few nearly fatal postpartum hemorrhages several years ago, but have since been convinced that it was the chloroform. I now use postpartum injection of pituitary extract if there is any sign of bleeding profusely.

Short cord, that is cord shortened by loops about child, have interfered with normal delivery in a few cases. Diagnosis before delivery of short cord cannot be made by anyone, still experience or something tells one when it exists. One should suspect short cord when head reaches pelvic floor and stops during good pains or when head pulls back for any length of time. Such cases require forceps at once to save child. I have put on high forceps several times and I will never do it again because any case that requires such treatment should be given a chance in the hands of the surgeon.

Vaginal douches were used twenty years ago but I do not know that anyone uses them now unless he has good reason.

Care of mother after delivery is a question of good nursing. The child should nurse the mother unless there is some good reason like diseased breasts or nipples, tuberculosis or some other debilitating condition. Mother

should be kept in bed for at least a week. Perineum requires no care aside from cleanliness. I always prescribe castor oil the second day as they usually require a laxative and oil has always worked well. Post natal visits by maternity nurse to supervise nursing have been a great help. Care in protecting cord should be exercised. I like to have nurse cut cord after it is tied and wrap it in a gauze saturated with alcohol to protect it until a permanent dressing of dry sterile gauze is applied after child is washed. I advise letting child pretty much alone and if there is any necessity for attending to prepuce it can be done at any time.

Premature infants should be kept warm and the chances of saving them are very much less if they are allowed to get chilled or if allowed to remain exposed in ordinary room temperature for any length of time.

In resuscitating a still born child I have had best success by keeping child in hot water, totally submerged, except face and if there is any perceptible heart's action you do not have to do much else, occasionally taking it out and letting a few drops of cold water fall upon it. I have watched other men work on them, performing artificial respiration, sometimes in a cold room; but I never have seen anyone have any better success than I have had with the gentle folding manipulation in hot water.

I have always believed that a lacerated cervix could be repaired a few weeks after delivery just as well because then it is done properly and if done at the time of delivery in the home, it is not such an easy matter as some would have you believe. The blood serum following expelling of placenta is a good application to wounds received during delivery and I think it advisable to let parts alone and, until I am convinced that I should do otherwise, my cases will wait for secondary operation if that is necessary.

Since writing this paper I am informed that at one of the large maternities in New York they advise and practice the application of high forceps, even when head is not engaged. It seems that there is always someone to "take the joy out of life," advocating the thing that we condemn.

ALIENISTS AND NEUROLOGISTS FOR THE ARMY

The National Committee for Mental Hygiene has created a sub-committee on furnishing hospital units for nervous and mental disorders to the United States Government, the project having been approved by Surgeon General W. C. Gorgas of the U. S. Army.

This sub-committee, of which Dr. Pearce Bailey of New York is chairman, is authorized to secure the services of alienists and neurologists to be commissioned in the Officers' Reserve Corps, Medical Section, and to serve in the neuro-psychiatric units which are to be attached to the base and other hospitals of the military services of the United States. Further information will be given, and application forms sent to physicians qualified in this branch of medicine, on application by letter or in person to The National Committee for Mental Hygiene, 50 Union Square, New York City.

DIABETES AND THE ALLEN TREATMENT

By
WINFRED H. LANE, M.D.
Brattleboro, Vt.

Because of the extreme disappointment in the treatment of diabetes, because of its usual fatal termination, and because of its frequent occurrence, the researches of Frederick W. Allen of the Rockefeller Institute are extremely interesting. They appear to me to offer the patient the best chances of success that we are able to extend.

It is my custom to explain the treatment very carefully to the patient for two reasons: First, that he may be in a way prepared for the discomfort of the starving days which are very unpleasant, and secondly, to secure his complete co-operation. Without that the physician is helpless. Given a patient who is anxious to get better, is willing to bear the pains of hunger and anxious to follow *in minute detail* his physician's instructions regarding diet, I am sure that we can promise him very much. The treatment is too young to establish hard and fast end-results. I believe, however, that the patient rendered sugar free may remain sugar free if he will confine himself strictly to the diets prescribed.

The following case may be of interest. L. H., male, 53, married; farmer by occupation; has been a moderate drinker; family history negative; has always been in good health up to about two years ago when sugar appeared in his urine; usual weight in health 140-145 pounds. When admitted to the Brattleboro Memorial Hospital he weighed 94 pounds, 8 ounces. For the first forty-eight hours he was allowed to eat as he pleased and to do as he pleased. The twenty-four hour urine was around 200 ounces, almost colorless, Sp.G. of 1040 and showed 8% sugar with strong acetone and diacetic acid reactions. There was a strong acetone odor to his breath and his thirst was intense. He was by no means in coma, yet his retarded mental condition and apathetic attitude toward his new surroundings suggested that coma might not be far away. After the first forty-eight hours all food was withdrawn and he was allowed only whiskey and black coffee every two hours from 7 a. m. to 7 p. m. and water *ad libitum.* At the end of three and one-half days he was sugar free. The signs of approaching coma had entirely disappeared, the polydipsia had left, the urine was normal in amount with a Sp. G. of 1022. The acetone and diacetic acid reactions, however, remained strongly positive. Aside from the pains of hunger, he said he was feeling much better. His weight at the end of the starvation days was 92 pounds, 4 ounces, showing a loss of 2 pounds, 4 ounces. His first diet was very low in carbo hydrates and moderately low in proteins with a fairly liberal amount of fat. This diet was cautiously increased until at the end of two weeks, he was taking a fair diet with quite a variety of foods which in a measure satisfied his hunger. On leaving the hospital he was taking around 1700 calories per day. His weight on discharge was 98 pounds, showing a gain of 3½ pounds. The urine remained sugar free. Because of his emaciation, intense polydipsia, large amount of urine with 8% sugar and symptoms of approaching coma, I think it is fair to class him as a far advanced

case. The Allen treatment, to my mind, at least, accomplished for this fellow more than any other treatment with which I am familiar. Joslin's modification of the Allen treatment is much preferred by some men. I have not used it and for that reason am not prepared to discuss it.

URGE DRAFTING OF DOCTORS FOR THE ARMY BY SELECTION

The Council of National Defense authorizes the following:

Claiming that the volunteer system of recruiting physicians for the Medical Reserve Corps of the Army has proven unsuccessful, Maj. Karl Connell, Maj. Richard Derby, and Capt. Frederick Van Beuren, of the New York committee for national defense, medical section, have presented to the Council of National Defense a report urging the drafting of physicians selectively upon a basis of Federal classification by a special medical census similar to that recently secured in New York State.

Constitutionality Established

At a meeting of the general medical board of the Council of National Defense here today Dr. Connell demonstrated that out of the 140,000 doctors in the United States less than one-half were available and desirable for military purposes. He stated that the policy of allowing or urging doctors to volunteer indiscriminately in the enormous numbers that are needed for medical officers in this war would result in confusion, waste, and failure. This analysis of the Medical Reserve Corps in New York State clearly indicated that the volunteer system failed to preserve the integrity of the public health service or to protect the local community medical needs and that it neglected to consider the individual physician's family and professional connections.

Dr. Connell urged that a selective medical draft, based upon special classification by census, would accomplish the desired result by bringing into the Army those best fitted for its uses and by leaving at home those physicians most needed by the community. The constitutionality of legislation required to legalize the draft of doctors has been established satisfactorily by an opinion from the Judge Advocate General's office.—*The Official Bulletin.*

NOVOCAIN, ORTHOFORM, ANAESTHESIN AND HOLOCAIN EXEMPTED FROM THE HARRISON NARCOTIC ACT BY THE FOLLOWING RULING

B. C. K.

TREASURY DEPARTMENT
Office of Commissioner of Internal Revenue, Washington
Mar. 28, 1917

M-n. Mim. No. 1497
Suspending enforcement T. D. 2194, relating to synthetic substitutes for cocaine.

To Collectors Internal Revenue, Revenue Agents and Others Concerned:

Referring to T. D. 2194, holding that any synthetic substitute for cocaine, alpha or beta eucaine, or their salts or derivatives, comes within the provisions of the Act of December 17, 1914, and that persons using or having in their possessions any such synthetic substitute are required to register and obtain such substitutes upon official order forms and otherwise conform to this act, this office has decided to suspend the enforcement of the ruling of April 26, 1915, until you are otherwise advised.

This action is taken in view of the decisions of the U. S. District Court, Southern District of New York, of June 28, 1915, and of the Circuit Court of Appeals for the Second Circuit, of February 21, 1916, holding that these synthetic substitutes did not come within the provisions of section 1 of the act.

Therefore, you are directed to notify all registered persons in your district or others who may be affected by T. D. 2194 of the suspension of this ruling.

W. H. OSBORN.
Commissioner.

Approved:
W. G. MCADOO, Secretary.

Vermont Medicine

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Conducted by the Publication Committee.
WILLIAM GRAY RICKER, M.D., St. Johnsbury, Chairman.
A. STUART M. CHISHOLM, M.D., Bennington.
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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., June, 1917.

Editorials

THE FOOD QUESTION AT HOME

The question of food-economy or of food-waste needs to be better understood both by physicians and the general public if it is to be intelligently directed and usefully conducted. Of course we as a people squander more than we can in any way replace or economize in many other matters than in food. Most of the heat goes up the chimney. The measure of food values for some years has been the number or amount of calories which the food represents, and all diets have been aranged and formulated with a single eye to the heat-producing qualities of the foods prescribed. But the function of food is more than to produce heat by oxidation and furnish fuel to the body. Tabloid foods have been long a perennial jest to the joke-smiths, but if calories were all we needed, the tabloid era would soon arrive and the intestinal tract, fallen impervious from disuse, would remain, like the appendix itself, a rudimentary reminder of a former stage of development, interesting only to students of pathological archaeology. If, indeed, we might thereby put an end to typhoid fever, enteroptosis, hernia, epilepsy and infantile diarrhoea the result might prove a benefit but the end is unknown and we had much better bear the ills we have than fly to others that we know not of. Even the appendix, useless as it is, has acquired the bad habit of kicking up a lot of fuss without evident justification.

We have come to regard fever as a necessary step in the process of developing protection from the invasion of infection or of driving out the invader, and in fevers we therefore kindly assist this development of protection by supplying abundant calories to the laboring defence. A pure caloric food is desirable in these conditions of infection. In tuberculosis and pneumonia and for an obvious reason in typhoid fever, so-called caloric-feeding is unquestionably of very great value, but further than this we are not inclined to favor it. The old adage, "stuff a cold and starve

a fever," has been happily reversed, thanks largely to Dr. Graves of Dublin.

The fact that the body can be preserved in a state of health only by balancing the carbohydrate and fat diet with the proteids and with the necessary mineral salts, is one that for the time we have somewhat overlooked or at least neglected in silence; but when we are considering the maintenance of health rather than the necessities of disease, we must first of all enlarge this temporary and casual view of diet. Certain conditions of defective nutrition, e. g. scurvy and beri-beri, indicate that the requirements of health are still larger than the mere addition of available nitrogen in the form of proteids can supply, and this element, under the name of vitamine, is now being carefully investigated. While existing in adequate and even abundant supply in all cereals, it is assiduously eliminated from wheat flour during the process of refining, and it seems to be destroyed in boiling and even in pasteurizing milk; in salted meats too it has ceased to exist and cooking is said to expel it from eggs. These being the principal food products in which vitamines are found, viz., cereals, meat, eggs and milk, it would almost seem as if we had determined to deprive ourselves of one of the most necessary constituents of our food supply. These things then, carbohydrates, fats, proteins, mineral salts, and vitamines, must be present in due proportion in any well-balanced food-scheme. Moreover foods must be of such a variety as to stimulate appetite and thus aid digestion and they must contain a sufficient quantity of inert and indigestible substances to give bulk to the stools and thus favor catharsis.

All these requirements must be met by any well-balanced dietary and true food economy, so far from disregarding these conditions, demands that they be observed, since thus only can the activities of health be duly prosecuted. Mere existence, it is true, can be content with less. Richter not only sustained life for a considerable period but did some admirable literary work on the prisoner's diet of bread and water, and his is so far from being an isolated case that time and patience would alike fail before the enumeration of similar cases could be completed. But it is not sufficient to preserve life alone—health as we know makes larger demands and fails if these demands are not satisfied.

Many expensive articles of food however may be and should be entirely removed from our tables. The patriotism of self-denial is more necessary than the patriotism of glory, although one passes unnoted and the other is acclaimed with flowers, shouts, brass bands and the plaudits of the multitude. One of the duties physicians owe to their communities is to instruct them in judicious economy as applied to foods.

The estimated amount of wheat that must be exported to our allies for their subsistence, is found to be much larger than we stated last month. Mr. Hoover announces that 840 million bushels of wheat and corn will be required for their immediate use. Argentina has it seems laid an embargo on wheat, and the vast supplies of Russia may be diverted to the use of the Central Empires while that great country is engaged in finding herself. We shall soon find out for ourselves, as France and Britain have already discovered, what a dreadfully bitter thing real war is.

THE MEDICAL SERVICE

Although we have been theoretically at war for two months we have not yet begun to feel its bitterness and yet that also will come. When Garibaldi, after his heroic defense of Rome in 1848, assembled his soldiers in the Plaza of St. Peter's he said to them, "Those who will may follow me, but I cannot promise them anything but hunger, peril and death." And he kept his word. Hunger we hope our soldiers will not have to endure in its extremities, but peril and death are a part of the soldier's *métier*. That the peril may be lessened, we have learned through our knowledge of hygiene and protective vaccination; that death may be postponed, has been proved by the advances in military surgery; and these things rest in the hands of the Army Medical Service.

In April of last year, we spoke briefly on the requirements of this service. We had at that time 444 army surgeons which could be immediately increased by enrolling the Medical Reserve Corps of 1650 physicians from civil practice. These have since been called to the service and the Army Medical Service thus raised to 2100 men. But this summer will see an army of 625,000 men in training, and the Medical Service must again be doubled, for 5000 surgeons are the very lowest number that can possibly suffice for such an army. 3000 men must then be called from civil to military practice next month, for they need to be trained as well as the raw recruits to make them effective.

In the matter of recruits who have voluntarily enlisted from Vermont before the enactment of the Universal Service Law we hope we do not see an augury of the unwillingness of Vermont physicians to offer themselves for the country's service. We are in hearty accord with the principle of compulsory service as applied to the army. In England it has become necessary to apply this principle also to the enrollment of officers for the medical service and to the justice of that application we must also assent. Will the same step be required here also?

But the subject unfolds itself further. It is estimated that by the beginning of 1918, if the war shall still endure, we shall be compelled to maintain an army of two million men for foreign service and shall therefore require a Medical Service of 15,000 men or one in ten of the physicians at present in the United States. And not only must they be enrolled, equipped and trained, but they must be maintained at that figure. Now it happens that the experience of the British Army has been that the mortality in the Medical Service has exceeded in proportion the losses of even the infantry and the artillery. This seems incredible, but the fact is officially stated by the British Government. Of course we know that in this war against humanity the most humane department of all has been attacked with especial malignity. The Red Cross so far from being a protection has become in itself a risk; hospital ships have been fiendishly destroyed, private hospitals in the North of France have been shelled with wicked virulence; food ships for Belgium have been torpedoed and the ambulance service has become a service of especial hazard. So it is doubtless true that the doctors have been killed with greater insistence than the men actually engaged in fighting.

Well, all this means that the bitterness of war, which falls or will soon fall on all American citizens, falls upon the profession of Medicine with an especial force. But this should be an incentive, since the need is greater. We sincerely hope that there will be no need of applying compulsion to the physicians of the United States in order to complement the medical service.

At the Annual Meeting of the American Medical Association which is being held in New York at the time of writing the present paper, Dr. Franklin H. Martin announces that 30,000 medical men are at present needed to fill the requirements of our military and naval service, 28,000 for the army and 2,000 for the navy, while only 3,000 are actually ready to enter the service. In England the physicians under the age of 54 have been entirely removed from civil practice and enrolled in the service, for it has been found that the mortality among medical officers has been so great that it is almost impossible to keep the service adequately supplied. "In a recent retreat of the Allies," said Dr. Martin, "267 doctors were killed in an hour, and in another battle 400 more were put out of service." The first request that Mr. Balfour made, when he came to this country a few weeks ago, was for doctors. Let there be no delay about our offering ourselves to supply the needs of our country. We are in the war as much as the men who offer themselves or who are selected for the artillery and infantry arms.

REORGANIZATION OF COMMITTEE

The State Committee for Vermont of the Committee of American Physicians for Medical preparedness has been reorganized by the General Medical Board of the Council of National Defence and is hereafter to be known as the State Committee of the Council of National Defence, Medical Section.

The personnel of the Committee is changed by adding five new members, Drs. C. F. Dalton, Secty. of the Vt. State Board of Health; T. J. Hagan, Maj. and Surg., 1st Vt. Inf.; W. Scott Nay, Secty. of the Vt. Board of Medical Registration; Wm. G. Ricker, Secy. of the Vt. State Medical Society and H. C. Tinkham, Dean of the School of Medicine, Univ. of Vermont.

These with the members of the former committee will act in medical matters within the State of Vermont under the direct authority of the Council of National Defense.

This Committee met at the Hotel Vermont, Wednesday evening, June 13th and organized by electing Dr. W. W. Townsend of Rutland, chairman; and Dr. J. M. Hamilton of Rutland, secretary and treasurer.

The progress of the work in securing applicants for commissions in the various medical services of the county was reviewed and it was found that more than twenty Vermonters have commissions in the Army and Navy at this time . A full roster will be printed in the July number of VERMONT MEDICINE.

In accordance with the direction of the Council the work of securing applicants will be pushed as fast as possible.

Capt. W. H. Mitchell, M. R. C., who was the Examiner chosen by the former committee has been called to active service and the chairman and secretary were directed to select examiners and

(*Concluded on Page 166*)

Progress in Medical Science

ROENTGEN RAY PATHOLOGY OF TUBERCULOSIS OF THE LUNGS

Tuberculosis has been more selective in its involvement of the finer structures of the lung than any other lesion. For this reason any article dealing with the anatomy of the air sacs and accompanying structures is especially pertinent.

The reviewer had opportunity last fall of listening to several papers dealing with the anatomy of the lung at the annual meeting of the American Roentgen Ray Society. A paper read by Dr. W. S. Miller, Professor of Anatomy, University of Wisconsin, was of special interest in as much as he dealt with the minute anatomical construction only. His paper was followed by Dr. Kennon Dunham's article on Roentgen Ray evidences of tuberculosis. Dr. Dunham has for some years been considered one of the leading pioneer roentgenologists in pulmonary diseases. He is Chief Clinician Tuberculosis, Medical Department, University of Cincinnati, so ought to be able to speak with authority. In as much as Dr. Dunham's work has been based upon the anatomical findings of Miller, it would seem opportune that these two articles should be reviewed together. And since these papers have just been published in the *American Journal of Roentgenology,* it becomes possible to abstract them for VERMONT MEDICINE.

In regard to the minute anatomy of the lung I wish to quote somewhat at length from W. S. Miller's article "Some Essential Points in the Anatomy of the Lung." "The gross distribution of the bronchi within the lungs is familiar to all who have made a study of these organs. I therefore pass over a detailed description of the bronchial tree and proceed to certain points connected with the finer structure of the lungs.

"If the bronchial tree be followed to its ultimate divisions a point will be reached where the bronchi are no longer of a regular outline but they have here and there small air spaces (alveoli) opening into their lumen, such bronchi are termed *bronchioli respiratorii.* Each bronchiolus respiratorius divides into branches which have a still greater number of alveoli connected with them, the *ductuli alveolares.* Each ductulus alveolaris is connected with a variable number of irregularly spherical spaces which also possess alveoli, the atria. With each atrium a variable number (2-5) of *sacculi alveolares* are connected which bear on all parts of their circumference alveoli, the *alveoli pulmonum.*

"We find then that, beginning with the bronchioli respiratorii, alveoli are connected with all the remaining divisions of the bronchial tree and with the air spaces connected with them.

"The last division of the bronchial tree before it breaks up into the parenchyma of the lung is the ductulus alveolaris. We may, therefore, consider it and the air spaces connected with it as representing a special area; moreover, it will be found that the entire lung is built up by the constant repetition of this area which is termed the (primary) lobule of the lung.

"The primary lobule of the lung may be defined more exactly as that area within the lung which consists of a duc-

tulus alveolaris, the air spaces connected with it, their blood vessels, lymphatics and nerves (Plate 1)."

Miller considers the primary lobule as the unit of structure in all lung tissue. Especially is this true when interpreting pathological lesions (shadows) upon roentgenographic plates.

Certain roentgenologists have made much of triangular shadows being indicative of early active pulmonary lesions. In explanation of this Miller says that, "This arrangement of pulmonary tissue occasions under certain pathological conditions areas of increased density on X-ray plates which have a more or less triangular outline, when viewed from the side. Take for example a case of tuberculosis in which the lung has been removed, inflated and photographed. In a flat picture the irregular triangles ("fans") can be made out, where the disease has not progressed too far, not only at the periphery of the lung but also in the deeper portion of the lung. If in place of a flat plate we use stereoscopic plates, the picture is all the more pronounced. The size of the triangle depends on whether one or more primary lobules are involved, or whether one or more secondary lobules are involved. The type of tuberculosis also influences the character of the density. In advanced stages the picture is one of diffused density and often a lung will show the irregularly shaped fans in one portion and the more advanced diffused density in another portion.

"In Fig. 3, lines have been drawn about various subdivisions of the bronchial tree to indicate why the areas of density take a triangular shape."

A knowledge of the course pursued by the blood vessels (Plate 1) is also es-

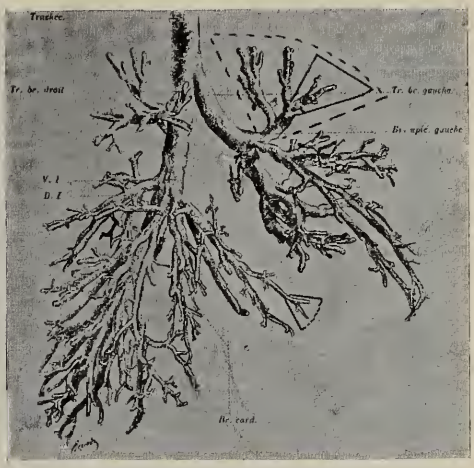

FIG. 3. BRONCHIAL TREE WITH LINES DRAWN ABOUT VARIOUS BRONCHI TO SHOW THAT THE NATURAL EXPLANATION OF THE TRIANGULAR AREAS OF DENSITY SEEN ON X-RAY PLATES IS THE ARRANGEMENT OF THE AIR SPACES.

sential in the study of X-ray shadows. The bronchial artery being distributed to the walls of the bronchi, connected with the lymphoid tissue of the lung, extends out to become a nutrient artery of the pleura as well as the above structures.

True bronchial veins are found at the hilum of the lung as they care for only a part of the blood brought by the bronchial artery, the balance being taken up by the pulmonary vein which will be considered later.

It should be remembered that the bronchial vessels are nutrient in function while the pulmonary vessels are functional, assisting in the oxygenation of the blood. The course of the pulmonary artery follows in all its subdivisions the subdivisions of the bronchial tree. "The terminal ending of the artery occupies a central position within the lobule (Plate 1, art. and Fig. 4), dividing into as many branches as there

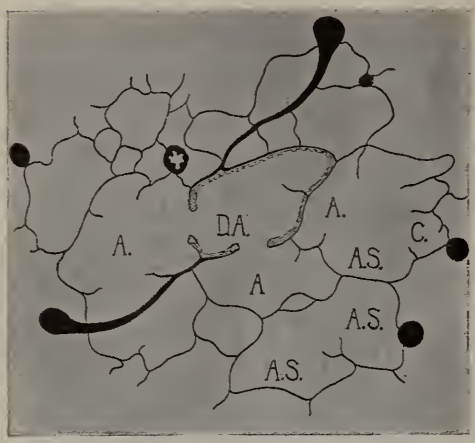

FIG. 4. COMBINATION OF THREE SECTIONS TAKEN THROUGH THE CENTER OF A PRIMARY LOBULE OF THE LUNG OF A DOG.

D.A., Ductulus alveolaris; *A.A.A.*, Atria; *A.S.*, *A.S.*, *A.S.*, Sacculi alveolares; *C.*, Alveolus pulmouis. The tunica muscularis of the ductulus alveolaris is indicated by the broken lines. The pulmonary artery is indicated by the vessel with a stellate opening; the pulmonary veins are iu solid black. Note the two veins which arise from the ductulus alveolaris; they correspond to (2), in Plate 1. Camera lucida drawing.

are atria connected with the ductulus alveolaris belonging to that particular lobule. Each atrial artery divides into branches which pass to the sacculi alveolares in the walls of which they break up into the capillary network of the lung.

"The pulmonary veins arise from radicles situated in the pleura (Plate 1, 1), from the distal end of the ductuli alveolares (Plate 1, 2), from the place where bronchi divide (Plate 1, 3) and from the network of capillaries into which the pulmonary artery breaks up. While the pulmonary artery, as already stated, occupies a central position in its relation to the lobule, the veins are situated on the periphery of the lobule (Fig. 4). There is a single exception to this rule, namely: those veins which arise from the distal end of a ductulus alveolaris (Plate 1, 2) are situated within the lobule (Fig 4). The blood brought to the bronchi of the lung is returned by the veins which have their origin at the place where the bronchi divide (Plate 1, 3) and from the distal end of the ductuli alveolares (Plate 1, 2).

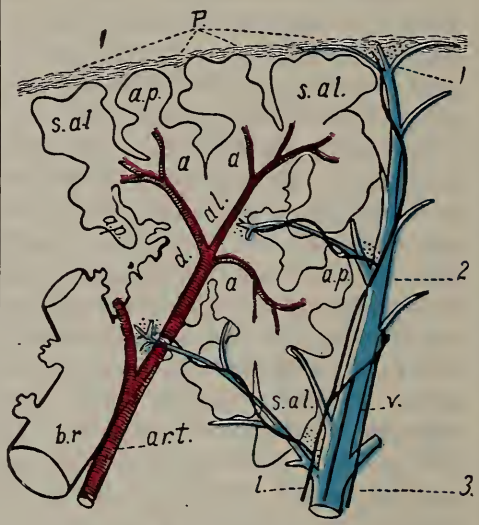

PLATE 1. SCHEMATIC LONGITUDINAL SECTION OF A PRIMARY LOBULE OF THE LUNG (ANATOMICAL UNIT), SHOWING THE RELATION OF THE BLOOD VESSELS TO THE AIR SPACES AND TO THE PLEURA, THE POSITION OF LYMPHOID TISSUE AND ITS RELATION TO THE AIR SPACES, BLOOD VESSELS, LYMPHATICS AND PLEURA.

Pulmonary artery, red; pulmonary vein, blue; lymphatics, black. The position of lymphoid tissue stippled in black. The lymphatics of the bronchial system aud those of the artery are not indicated. *b.r.*, bronchiolus respiratorius which divides into two ductuli alveolares, *d.al.*, ouly oue of which is carried out iu detail; *a.a.a.*, three atria each of which communicates with sacculi alveolares *s.al.*, arouud the periphery of which are situated the alveoli pulmonum, *a.p.*; *P.*, pleura pulmonalis.

"We have seen that the pulmonary artery and its subdivisions follow closely the subdivisions of the bronchial tree lying in close apposition to the bronchi.

This is not the case with the subdivisions of the pulmonary vein; they are always situated as far from the bronchi as possible."

There is an intricate system of lymphatic glands about the bronchi and both nutrient and functional blood vessels. The direction of lymph flow is particularly important and I will again quote Miller in this respect.

"In the lymphatics of the bronchi, of the arteries, of the main venous trunks and the greater part of the pleura, the flow is toward the hilum of the lung. In the lymphatics about the veins, the flow, in those vessels which are situated just beneath the pleura and communicate with the pleural network of lymphatics, may be toward the pleura. This probably explains why we may find tubercles in the pleura and none in the deeper part of the lung."

The location of the lymphoid tissue is of interest to all as "these masses frequently serve as centers to which disease processes may be conveyed through the lymph stream."

Lymphoid tissue is found in the angle of dividing bronchi, at the distal end of the ductuli alveolares, at the angle formed by the union of any two pulmonary veins and in the pleura at the origin of the pulmonary vein.

In closing, Miller remarks as follows: "For the correct interpretation of roentgenograms, definite knowledge of the distribution of the bronchi, the arteries, the vein, the lymphoid tissue, the lymph follicles and lymph nodes within the normal lung and at the hilum is absolutely necessary; for it is impossible to correctly understand the pathologic without a previous knowledge of the normal."

Having considered the minute anatomy of lung tissue we are then better prepared to review Dunham's article on the "Relation of the Pathology of Pulmonary Tuberculosis to the Roentgen Findings."

Dunham, after reviewing hypotheses of various men as to the production of this disease, says as follows: "Dr. Miller to-day has called your attention to the all-important anatomy of the lungs. without an accurate understanding of which it is impossible to conceive the process of infection, the beginning and dissemination of tuberculosis in the lung. But given this anatomy, you are in a position to follow my interpretation of how these processes take place. I believe that in the vast majority of cases of pulmonary tuberculosis the bacillus enters the air passages with the dust and soot and is carried into the smaller bronchial subdivisions (beyond the ciliated epithelium) as far as the ductulus alveolaris and the ultimate lobule; and that from there it is taken by the large phagocytes or macrophages, before the bacillus has caused any infection at its point of lodgement, and is carried to the lymphoid tissue which is abundant in this locality. If neither the phagocyte nor the lymphoid tissue is able to destroy the invader, or if the lymphatic cannot sufficiently drain the part, a tuberculos lesion develops in or near these lymphoid cells. If the bacilli grow instead of being destroyed, it indicates a greater effort on the part of the economy resulting in the appearance of epitheloid and giant cells. Necrosis, caseation and the formation of cavities will follow in their wake. * * *

"In either case the lesion can be followed along the lymphatics of the veins, the arteries and the bronchi. These

lymphatics are easily made out by their engorgement or by the pigment deposited in the alveolar connective tissue just outside their walls. Thus, the course of the tubercle bacillus from the bronchus to the parenchyma of the lung coincides with that followed by the dust and particles of carbon, but the coal pigment is received without causing grave pathological changes, while the tubercle bacillus lives, grows, multiplies and destroys."

Fig. 1. A print from one of the microscopic plates: *a*, with hemorrhage complication in the apex of the lower lobe; *b*, chronic tuberculosis at apex of the upper lobe; *c*, acute tuberculosis from which block was removed showing microscopic abscesses, microphotograph of which is shown on Plate B, Fig. 3; *d*, typical tuberculous fans which stereoscopically can be seen to come to the pleural surface.

Dr. Dunham was the first to lay emphasis upon the "fan" shaped shadows as being the earliest possible manifestation of an *active* tuberculosis, much earlier in fact than any physical finding. He uses Figures 1, 2, and 3 with others to demonstrate his claims in this

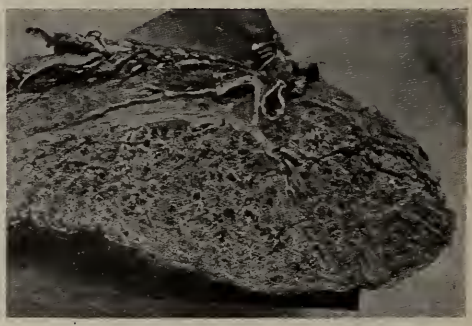

Fig. 2. Cross section of lung, showing area from which block was taken and old lesion.

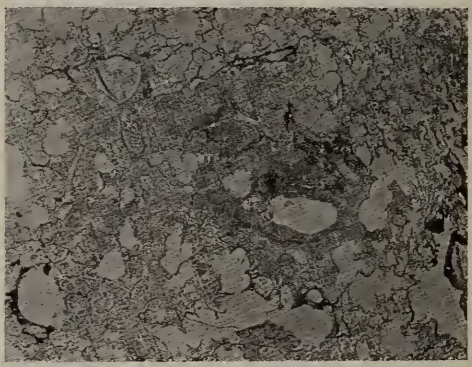

Fig. 3. Microscopic section showing minute cavities. By a study of the serial sections these cavities were found to drain into the bronchus.

respect. As a result of the excellent work of these two men it has now been acceded by all roentgenologists and many lung specialists that the "fan" shaped shadow on a well-taken X-ray plate presents the earliest unmistakable evidence of an active tuberculosis.

C. F. B.

(Cuts used in this review by permission of authors.)

TUBERCULOSIS NOTES

In the *Journal of Pathology and Bacteriology,* Cambridge, Dec., 1916, C. Y. Wang presents the results of a series of experiments on human and bovine types of tubercle bacilli under the title of "Isolation of Tubercle Bacilli from Sputum and Determination of Their Type." He concludes that tubercle bacilli as found in the human body can be divided into two classes by means of inoculation into rabbits. One class presents the cultural characteristics and their virulence for rabbits which are manifested by tubercle bacilli isolated from cattle and may be classed as of the bovine type; the other class has a low virulence for rabbits, is almost uniformly obtained from a human source and should be classed as human tubercle bacilli.

In an article entitled "Group Studies in Tuberculosis Under Different Climatic Conditions" (*Am. Rev. Tub.,* April, 1917), Walter C. Klotz, formerly of the Vermont Sanatorium and now of the Barlow Sanatorium, Los Angeles, Cal., presents a study of 200 consecutive cases treated in each of the two sanatoria. Both sanatoria are semi-charitable and the cases compared were substantially from the same walks of life. The methods of treatment were the same and the classifications were made by the same man. The care and food were substantially the same in both sanatoria. The residence was 7.4 months average at Barlow and 4.6 months at Vermont. This in itself would account for somewhat better results in the former group. There was a larger percentage of cases of the chronic fibroid type at Barlow and fewer acute ulcerative cases.

In the Vermont group T. B. were found during residence in 64.5% of cases; in the Barlow group the percentage was 56.

Again there were 16% in the Vermont group whose temperature was 100° or above on admission and 11.5% had the same temperature on discharge; in the Barlow group the percentages were 6.5 and 3.

Klotz finds that hemorrhages and colds were more frequent in the Vermont group.

The dietary was more generous in Vermont than in California both in total quantity and in proportion of protein. The average gain in weight was greater and more rapid in Vermont.

Klotz concludes that "after considering all collateral factors and eliminating possible sources of error, the differences in results obtained are still sufficiently marked to warrant the conclusion that, given similar modes of living and methods of treatment, greater and more lasting benefit would be obtained under the climatic conditions of California than under those of New England."

The National Association for the Study and Prevention of Tuberculosis aims to provide, through education and public agitation, such necessary means for fighting the great white plague as sanatoria, dispensaries, open air schools, visiting nurses, anti-tuberculosis associations, public exhibits, etc.

This work is carried on by correspondence, by field work of representatives, through annual meetings and sectional conferences, by Red Cross seal sales, and by general publicity through published studies and bulletins. The Association serves as a general clearing house for information and advice on all

subjects pertaining to tuberculosis. An examination of conditions prior to the organization of the Association in 1905 and those that exist now shows the following: prior to 1905 there were 156 institutions and organizations doing tuberculosis work, now there are between 3000 and 3500; there were in 1905 one hundred sanatoria and hospitals mostly poorly equipped, now there are over 550 special sanatoria and hospitals and over 450 clinics and dispensaries for the treatment of tuberculosis and practically all are well equipped and efficiently operated. Prior to 1905 there were less than 30 anti-tuberculosis societies, now there are about 1400 associations and committees working more or less closely under the National Association. There was not one open-air school, now there are 300 open-air schools listed with the Association and 400 or 500 more not so recorded. The death rate in 1904 was 200.7 per 100,000, in 1914 it was reduced to 146.8 per 100,000. Real work was being carried on against tuberculosis in only five states, now the public is becoming aroused in nearly all the states to an appreciation of the need for such work.

A very great part of this advance is due to the work of the National Association.

The Association needs as many members as possible as it is the receipts from dues which largely enables it to carry on its work. Any physician in good standing and any layman who is honestly interested in the control of tuberculosis and not engaged in enterprises at variance with the ideals of the Association may become a member. The dues are $5.00 per year. Members receive without cost beyond the annual dues, the *Journal of the Outdoor Life*, the official monthly of the Association, the *Monthly Bulletin*, and various publications issued from time to time such as the Tuberculosis Directory, and sundry published studies along different lines of work in tuberculosis. The *American Review of Tuberculosis* is also available to members at $2.00 a year, instead of $3.00, the price to non-members.

Everyone who wishes to help along the fight against tuberculosis should become a member of the National Association.

H. S. G.

From the Council of Pharmacy and Chemistry

During May the following articles have been accepted by the Council of Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Non-proprietary articles:
- Calcium Cacodylate
- Thorium Nitrate
- Thorium Sodium Citrate Solution
- Thorium Sodium Citrate Solution, Stronger

Abbott Laboratories:
- Chlorazene Surgical Cream

Anthony-Hammond Chemical Works:
- Betanaphthol Benzoate

Armour & Company:
- Kephalin-Armour

Borcherdt Malt Extract Company:
- Borcherdt's Malt Extract with Cascara Sagrada
- Borcherdt's Malt Extract with Cod Liver Oil
- Borcherdt's Malt Extract with Creosote

Hynson, Westcott and Dunning:
- Thorium Solution for Pyelography, H. W. and D., 10 per cent.
- Thorium Solution for Pyelography, H. W. and D., 15 per cent.

Sterile Ampoules of Mercury Salicylate, 1½ grains
Sterile Ampoules of Mercury Salicylate, 2 grains
H. K. Mulford Company:
Ampules Calcium Cacodylate Solution—Mulford
Synthetic Drug Co.:
Diarsenol

NEW AND NON-OFFICIAL REMEDIES

Parresine—A mixture composed of paraffin, 94 to 96 per cent, gum elemi, 0.20 to 0.25 per cent, Japan wax, 0.40 to 0.50 per cent, asphalt, 0.20 to 0.25 per cent, and eucalyptol 2 per cent. Parresine acts mechanically. It is used in the treatment of burns, "frostbite," "chilblains" and for covering denuded surfaces. For use parresine is melted and applied while liquid by means of an atomizer or brush. The Abbott Laboratories, Chicago (*Jour. A. M. A.*, May 12, 1917, p. 1406).

Siomine.—Hexamethylenamine tetraiodide, containing 78.5 per cent iodine. Siomine is decomposed in the intestine with formation of hexamethylenamine and iodid. It produces the effects of ordinary iodides, from which it differs only in that, being insoluble in water, it may be administered in solid form. It is marketed in the form of Siomine Capsules containing, respectively, ¼, ½, 1, 2 and 5 grains of siomine. Howard Holt Co., Cedar Rapids, Iowa (*Jour. A. M. A.*, May 12, 1917, p. 1406).

Sterile Ampules of Mercury Salicylate, 1½ grains.— 1 Cc of suspension containing 1½ grains mercuric salicylate in a fatty vehicle solid at ordinary temperature. Each ampule contains more than 1 Cc.

Sterile Ampules of Mercury Salicylate, 2 grains.—Each 1 Cc of suspension contains 2 grains of mercuric salicylate in a fatty vehicle soild at ordinary temperature. Each ampule contains more than 1 Cc.. of suspension. Hynson, Westcott & Dunning, Baltimore, Md. (*Jour. A. M. A.*, May 12, 1917, p. 1407).

Diarsenol.—A proprietary brand of arsenphenolamine hydrochloride, chemically identical with salvarsan. For a discussion of the action, uses, chemical and physical properties, see New and Non-official Remedies, 1917, under salvarsan. Diarsenol is marketed in hermetically sealed ampules containing, respectively, 0.1 Gm., 0.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm., 0.6 Gm., 1.0 Gm., 2.0 Gm. and 3.0 Gm. diarsenol. The Council accepted diarsenol for New and Non-official Remedies as the available supply of salvarsan appeared to be insufficient to supply the demand, and this preparation conforms to the rules of the Council for acceptance of proprietary preparations. Diarsenol is made in Canada by the Synthetic Drug Company under a license issued by the Commissioner of Patents of Canada. The Farbwerke-Hoechst Company, however, announces that the sale of brands of arsenphenol-amine hydrochloride other than that sold as salvarsan is, in its opinion, an infringement of its rights. The company states that all violations of these rights will be prosecuted under the law (*Jour. A. M. A.*, May 12, 1917, p. 1407).

Sofos.—A mixture of sodium dihydrogen phosphate and sodium hydrogen carbonate rendered stable by coating the particles of one of the constituents with disodium hydrogen phosphate. One part of sofos has the same phosphate value as 1.75 parts sodium phosphate U. S. P. When sofos is treated with water, sodium phosphate (Na_2HPO_4) is formed and carbon dioxide is set free. Sofos has the physiologic action of sodium phosphate. It is claimed to have an advantage over the effervescent sodium phosphate preparations in that it is free from citrate or tartrate. The General Chemical Co., New York City (*Jour. A. M. A.*, May 26, 1917, p. 1551).

PROPAGANDA FOR REFORM

Preparations of the pituitary gland.—The last edition of the Pharmacopeia, recognizing that the best attested field of usefulness for pituitary extracts is in obstetrics, adopted the test of their activity on the uterus of the guinea pig according to the method of G. B. Roth, of the U. S. Hygienic Laboratory. Roth now reports on the activity of seven commercial samples, the products of five American firms. Four of the samples were found of Pharmacopeia strength; the other three were much weaker. These preparations which have been accepted by the Council on Pharmacy and Chemistry for New and Non-official Remedies corresponded to the pharmacopeial requirements. Roth's work shows that the blood pressure method for determining the activity of pituitary preparations is not a satisfactory method for determining the activity of a

preparation on the uterus (*Jour. A. M. A.*, May 5, 1917, p. 1325).

Wheeler's Tissue Phosphates.—This is advertised as a "nerve food" and a "nutritive tonic." L. E. Warren of the A. M. A. Chemical Laboratory has analyzed this semi-secret proprietary and reports that it is a mildly bitter-flavored syrup which contains nearly 12 per cent of alcohol, small quantities each of calcium phosphate and hydrochloric acid and insignificant quantities of iron and quinin salts. From the analysis it is evident that Wheeler's Tissue Phosphate is an unscientific, shotgun mixture, whose most active and powerful constituent is the alcohol which it contains (*Jour. A. M. A.*, May 5, 1917, p. 1337).

Frostilla.—The lotion for chapped hands is, according to the Druggists Circular, a quince seed mucilage containing alcohol, glycerin and perfume (*Jour. A. M. A.*, May 5, 1917, p. 1341).

Dating of Biologic Products.—William H. Park, Director Bureau of Laboratories, Department of Health, City of New York, endorses the recently adopted requirements of the Council on Pharmacy and Chemistry that biologic products to be acceptable for New and Non-official Remedies must bear a statement of their date of manufacture. He believes that these requirements might well be made more specific and stringent. The rules of the New York Health Department governing the distribution of biologic products are: 1. The label on all bacterial vaccines must state the date the suspensions are made, standardized and killed. 2. The label on all serums other than antitoxin shall state the date of bleeding. 3. The label on antitoxins shall give the date when the preparation was last tested. 4. The label on vaccine virus shall have the date when the virus was last tested. Dr. Park states that there is no intention of extending the potency date of bacterial vaccines (four months) or of serums (nine months) other than the antitoxins until there are very specific data on which to act. For vaccine virus 100 per cent of "takes" is demanded (*Jour. A. M. A.*, May 12, 1917, p. 1428).

Salvarsan in Tabes with Optic Atrophy.—Some assert that salvarsan occasionally produces optic atrophy; others with extensive experience believe that it has no injurious effect on the eye. If given at all, it should be administered early in the disease (*Jour. A. M. A.*, May 12, 1917, p. 1430).

K-Y Lubricating Jelly.—The composition of this proprietary has not been divulged. Probably a simple tragacanth jelly will produce the same effects as this proprietary preparation. At the German Hospital, Philadelphia, a jelly made from tragacanth, 3 gm., glycerin, 25 c. c., phenol, 1.5 gm., with water to make 300 c. c. has been used for years (*Jour. A. M. A.*, May 12, 1917, p. 1430).

More Misbranded Nostrums.—The following "patent" medicines have been found to be marketed in contravention of the requirements of the U. S. Food and Drugs Act, chiefly because the medical claims were found untrue: Whitehall's Megrimine, capsules containing acetanilid, caffeine and salol (in one instance also capsules containing antipyrine and capsicum). Brown's Blood Treatment, a liquid containing mercury and iodid. Classe's Great Penetrating Liniment, an alcoholic solution of ammonia, chloroform, opium, camphor, oil of sassafras, oil of origanum and a thujone-containing oil. Brown's "935" Injection (formerly H. W.), a dilute solution of acetate and sulphate of zinc (*Jour. A. M. A.*, May 12, 1917, p. 1427-8).

Biologic Therapy in the War.—According to G. W. McCoy, Director Hygienic Laboratory, U. S. Public Health Service, there are five biologic products—vaccine virus, diphtheria antitoxin, tetanus antitoxin, antimeningococcus serum, and antityphoid vaccine—which may be regarded as indispensable in connection with conditions which prevail when large bodies of men are brought together. The firms manufacturing these products can, if need be, meet the demands of our own army and civilian population as well as those of our allies. McCoy believes that with good sanitary conditions that may be expected to prevail in our concentration camps, the need for vaccine agents not thoroughly tried out, such as antidysentery serum, antipneumococcus serum, and vaccines against dysentery, cholera and epidemic meningitis, should not be extensive with the possible exception of the meningococcus vaccine (*Jour. A. M. A.*, May 12, 1917, p. 1413).

Examination of Ambrine and Various Paraffins.—P. N. Leech of the A. M. A. Chemical Laboratory reports on the composition and properties of Ambrine and the various preparations proposed for the treatment of burns. He

finds that the French proprietary Ambrine—exploited in the United States as Hyperthermine and Thermozine—is essentially paraffin in which a small amount of a fatty oil and asphalt is incorporated. A preparation similar in composition but superior to Ambrine in physical properties may be made by dissolving 3 to 5 drops asphalt varnish in 1.5 Cc. of olive oil and adding this to 97.5 Gm. melted paraffin melting at 47.2 C. It is probable that for most purposes simple paraffin will answer just as well as Ambrine or the mixtures proposed in its place. Whether used alone or in mixtures, the physical properties of the paraffin are most important. Paraffin U. S. P. will not answer, and hence the properties of many commercial brands of paraffin were determined and the best products are designated (*Jour. A. M. A.*, May 19, 1917, p. 1497).

Nutrolactis and Goat's Rue.—Drugs which stimulate the secretion of milk are unknown to science. Yet the proprietary Nutrolactis (The Nutrolactis Company), is claimed to increase the milk supply of nursing mothers. Since dependence on a preparation of this kind is liable to cause neglect of the only means of increasing the milk supply of nursing mothers—care of the general health and a sufficient quantity of proper food—Professor A. J. Carlson and Marion Lewis of the Hull Physiologic Laboratory of the University of Chicago studied this proprietary and the drug goat's rue (*Galega officinalis*), which the proprietors of Nutrolactis hint as being the potent constituent, to determine their effects on nursing animals with the intention of extending the study to nursing mothers if the animal trials warranted this. The animal experiments showed that neither Nutrolactis nor goat's rue had any effect on the milk supply of nursing goats or dogs. The Council on Pharmacy and Chemistry, which had caused the study to be made, endorsed the work of Carlson and Lewis, and held that the claimed galactagogue effects of Nutrolactis and the drug goat's rue had not been substantiated (*Jour. A. M. A.*, May 26,

Excerpts from Other Journals

NEW VACCINATION ORDER

Protection Against Paratyphoid Fever for Overseas Forces Directed

In addition to the vaccination against typhoid fever prescribed in Circular No. 16, War Department, Office of Surgeon General, 1916, all officers and enlisted men of the United States Army and all other persons associated with the military forces of the United States, designated for service overseas, will be completely vaccinated against the paratyphoid fevers ("A" and "B"), prior to their arrival in Europe.

The vaccination against paratyphoid fever will be given in the same manner, in the same dosage, and with the same intervals as now prescribed in Section I, General Order No. 4, War Department, 1915, as amended by Section IV, General Order No. 23, War Department, 1915 (par. 273, C. of O., 1881-1915) for the vaccination against typhoid fever. The only vaccine used for this purpose will be the mixed "A" and "B" vaccine, prepared in the laboratories of the Army Medical School, Washington, D. C., which can be had upon direct application to the commandant of the school.

This order will be strictly enforced.

—*The Official Bulletin.*

THE RESULT OF ONE SMALLPOX CASE

On April 12th, a woman with a well developed case of smallpox appeared on a train at Essex Junction, having travelled from New London, Conn. At

Essex Junction, she became so ill that she was obliged to call a physician. Her case was at once diagnosed as smallpox and she was quarantined in a vacant house in the village. The next day all the health officers of the state were notified to be on the lookout for cases developing from this exposure. Up to the present, cases have been reported as follows: One in Underhill, two in Bellows Falls, one in Essex Junction, one in Berlin and one in Barre Town. With one exception, these persons were on the train with the patient. The exception was a man who came in contact with her at the railroad station. All those who have come down with the disease were unvaccinated.

Later Report—On May 26, cases were present in the following towns; Underhill, Berlin, Essex, Northfield, Braintree, Bellows Falls, Barre, Waterbury, Calais; ten cases due to direct exposure to the original patient, and 21 secondary cases.—*Bulletin of the Vt. State Board of Health.*

JUSTICE TO THE PHARMACIST

A letter in the Correspondence department of the Journal of the American Medical Association, June 16, from Mr. John W. England, secretary of the council of the American Pharmaceutical Association, calls attention to an anomalous state of affairs. Physicians, dentists and veterinarians are officially recognized by the government as men of special training, whose technical knowledge can be of use to the nation in time of war. Provision is made so that men in these three professions can be enrolled as commissioned officers and their skill thus most efficiently used by the Army. The pharmacist, however—as a pharmacist—is utterly ignored. If he enlists he does so as a private. So far as official recognition of it is concerned, the science and art of pharmacy might not exist for the Army. Today, as never before, victory in war goes to the nation that most effectively conserves the health of its fighting men. The physician is now of such military importance that the medical profession will be called on to make no inconsiderable sacrifices. It will materially lighten the arduous duties and responsibilities of the physician to have in the Army trained pharmacists who will be able to give intelligent co-operation. But it is imposing too great a strain on the patriotism of those whose special knowledge is obviously a large asset to the Army, to expect them to enlist as privates without any recognition of their national worth. Pharmacists should be given a rank commensurate with their importance, first because it is but simple justice to the pharmacists themselves, secondly, because the usefulness of the medical corps will be greatly augmented and, lastly, and most important, because the efficiency of our Army demands it.—*Journal American Medical Association,* June 16, 1917.

(*Continued from Page 155*)

arrange their itinerary for examinations if so directed by the Surgeon General of the Army.

So far all the expense of this committee have been borne by the members but Dr. Ricker, the Secretary of the State Society, was requested to suggest to the various County Societies that they assume part of the financial burden.

THE PUBLIC HEALTH SERVICE IN TIME OF WAR

Executive Order Making the United States Public Health Service a Part of the Military Forces of the United States.

Under the authority of the act of Congress approved July 1, 1902, and subject to the limitations therein expressed, it is ordered that hereafter in times of threatened or actual war the Public Health Service shall constitute a part of the military forces of the United States, and in times of threatened or actual war the Secretary of the Treasury may, upon request of the Secretary of War or the Secretary of the Navy, detail officers or employees of said service for duty either with the Army or the Navy. All the stations of the Public Health Service are hereby made available for the reception of sick and wounded officers and men, or for such other purposes as shall promote the public interest in connection with military operations.

(Signed) WOODROW WILSON.

The White House, 3 April, 1917.

—*P. H. Reports.*

News Notes

Dr. Kerrigan of Rutland has decided to settle in Ludlow and has rented the rooms on Depot street formerly used by the late Dr. Charles A. Brown. Dr. Kerrigan has just completed a post graduate course at the Carney hospital in Boston and is a surgeon.

The marriage of Miss Marion Fifield Bailey, daughter of Mr. and Mrs. Burnside Bailey of Montpelier, to Dr. Frederick Whittemore Harriman took place June 5th at the Bailey residence on State street. Rev. F. Barnby Leach, rector of Christ church, performed the ceremony.

Dr. Chester Smart, of the Mary Fletcher hospital, Burlington, and Miss Eula Douglas, of Burlington, were married at the home of the bride's brother, Arthur Douglas, in Essex Junction, June 11th, by the Rev. C. A. Adams.

Dr. Everal C. Haviland, aged 39 years, for six years assistant physician at the Brattleboro Retreat, died May 22 at his home in Keene, N. H., to which city he removed in 1910.

At the meeting of the Franklin County Medical Association, which was held at the St. Albans hospital, the following officers were elected for the ensuing year: President, Dr. H. H. Johnson, of St. Albans; vice-president, Dr. H. L. Pierce, of Swanton; secretary-treasurer, Dr. W. J. Upton, of St. Albans; censors, Dr. R. M. Pelton, of Richford, Dr. H. D. Hinman, of Enosburg Falls; Dr. W. B. Arnold, of St. Albans; delegates to state medical society, Dr. R. B. Thomas, of Enosburg Falls, one year; Dr. W. H. Wright, of Franklin, one year; Dr. Arthur O. Morton, of St. Albans, two years; Dr. C. G. Abell, of Enosburg Falls, two years; alternates, Dr. W. B. Hyde, of Bakersfield, Dr. Seth H. Martin, of Alburg, and Dr. J. M. Caisse, of Swanton.

Doctor Buttles of the state laboratory spoke on "Streptococcic Infection," the discussion of the subject being opened by Doctor Morton. Dr. E. A. Hyatt, of St. Albans, delivered the president's address. There were about 25 doctors at the meeting. Dinner was served at the American house.

RUTLAND COUNTY NEWS NOTES

A special meeting of the Rutland County Medical and Surgical Society was held at the Rutland Hospital on Friday morning, May 4th, 1917, when forty-three members and visiting surgeons gathered to hear an address by Major George H. Gosman of the medical corps of the army who is stationed at Fort Ethan Allen. Major Gosman gave a very vital talk upon the subject of "The Army Medical Service" and told in detail of the routine life of an army surgeon, emphasizing the wonderful advancement of military surgery along the lines of sanitation and the health of the soldier. Great stress was laid upon the necessity of physical fitness of recruits in order to secure efficient soldiers. Dr. Gosman said that the medical examination of men for the work of warfare is beset by so many pitfalls that without special training it cannot be undertaken by ordinary civilian doctors. Many interesting and instructive figures of medical preparedness were given.

In the afternoon Captain W. Hayes Mitchell of Shelburne, a member of the medical reserve corps of the army, assisted by Dr. F. H. Gebhardt of Rutland, examined Drs. J. M. Hamilton, L. A. Heidel and T. E. Larner of Rutland, Drs. E. J. Cray of Brandon, George A. Russell of Arlington, S. A. Cootey of Wallingford, R. W. Prentiss of Middlebury and J. L. Lovejoy of Manchester, who were candidates for admission to the medical section, Officers' Reserve Corps U. S. A.

Dr. Arlington Pond, M. R. C., U. S. A., of Cebu, Philippine Islands has been visiting in Rutland. Dr. Pond, who has been health officer of both Manila and Cebu, has received his commission as major in the M. R. C. and has been called to active service.

Dr. Ray Ernest Smith of Rutland has received a commission as first lieutenant in the Medical Corps of the Vermont National Guard and is on duty with the regiment at Fort Ethan Allen.

Dr. Edward F. Crofutt of Poultney has passed the examinations for entrance to the Medical Corps, U. S. Navy, and is on duty at Boston.

Dr. G. G. Marshall of Rutland took examinations at Fort Ethan Allen on April 12th for admission to the Medical Reserve Corps, U. S. A.

Drs. F. H. Gebhardt and C. H. Swift of Rutland have completed a series of lectures and demonstrations on first aid to the members of the Rutland Chapter American Red Cross.

The quarterly meeting of the Rutland County Medical and Surgical Society was held at the Rutland Hospital Tuesday, April 10th. Dr. G. G. Marshall of Rutland read a paper on "Diagnosis of Mastoid" and Dr. P. M. Williams of Rutland gave a paper on "Infections of the teeth." Both papers were illustrated with lantern slides. Dr. J. J. Dervin of Poultney reported an interesting case of dislocation of the wrist. It was the sentiment of the Society that the practice of members called to the colors be cared for during their absence and returned to them upon completion of service.

F. H. G.

Vermont Medicine

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Original Papers

INFANTILE PARALYSIS

The unexpected again happens to Vermont, as regards this disease. In early March of this year, six cases occurred in Waterbury. No other cases occurred there or elsewhere in the state until the middle of June when cases appeared in other Washington County towns, Montpelier, Waitsfield, Barre town and others. At this date (July 18) 61 cases and 6 deaths have occurred in this district since June 16th. All except three of these were in Washington County. These three undoubtedly belong to the Washington County group. These and many suspects have been seen and diagnosed by Dr. Edward Taylor, who is still employed by the State Board of Health as epidemiologist as well as research worker in this disease. At this writing no cases have been reported to the Secretary of the State Board for four days. The last were in Rochester. No new cases have been reported at Montpelier, which seems to be the center of the present outbreak, for over a week.*

For these reasons it is hoped that the outbreak is under control. On the other hand, August and September, in other years, have shown the most cases. We may at least hope that 1917 will prove an exceptional year as regards our freedom from this baffling infection in these two latter months, as it has in its incidence in early summer.

Meantime it has seemed saner and safer that certain public functions, which are apt to draw together crowds of people, old and young, from whole counties and even wider areas, should be abandoned. The unsettled condition of public affairs, the nation-wide movement to conserve our energies and resources, are bound to detract from the public interest in Fairs, Chautauquas, Carnivals and Circuses. For this reason and in view of the probable distribution of infantile paralysis by these functions in other years, it has been decided to order their abandonment this summer of 1917. In towns in which cases occur, local boards of health are expected to take advantage of an Act of the last Legislature and make regulations, such as have already been adopted in many towns, either prohibiting public gatherings altogether or restricting their patronage to persons over sixteen years.

Quarantining cases and placing a ban on public gatherings are old and often irksome measures. In our experience,

*Several new cases have since occurred in Barre City, Waterbury and Montpelier.

however, they have usually restricted the spread of infantile paralysis.

It must never be forgotten that in this disease, as in most of the infections, the *case* is the chief danger primarily, and the *contact* or *carrier* secondarily.

Persons, not things, insects or animals, are believed to be the chief, perhaps the only distributors. Therefore restricting the movements of persons is a logical and rational procedure.

It must not be forgotten that we are making progress in our knowledge of this subtle infection. The Research Laboratory, which the State Board has been enabled to continue through private benefaction, has made perhaps during the past two years the most important contributions to our knowledge of this disease.

This Laboratory has been under the direction of Doctors Taylor and H. L. Amoss. By animal experimentation it has apparently been shown that healthy noses and throats possess the power of neutralizing the virus of this disease; and the active virus has been twice demonstrated in the nasal secretions of healthy contacts. The former of these two series of experiments was published in a recent number of the *Journal of Experimental Medicine.* The latter and more recent experiments explain much of the mystery attending the occurrence of isolated and remote cases of this disease. If healthy, unidentified carriers may innocently distribute this infection, promiscuous public gatherings of people, especially in an infected zone, must be potent for much wide-spread distribution of the disease.

Dr. Taylor has been using the immune human serum in treating these cases, with apparent gratifying results. The success of this specific treatment depends largely on its early use. The early diagnosis of the disease—in the pre-paralytic stage—has been heretofore impossible. Recent observations of the symptoms, and the more general resort to spinal puncture, are now making this possible in many cases.

A difficulty that has been encountered in this connection has been the securing of proper persons who would donate blood. This should be obtained from healthy subjects, at least eight or ten years of age, and the donor's attack of infantile paralysis should not date back more than five years.

While we are surely making progress in our knowledge of the diagnosis, methods of transmission, treatment and prophylaxis of this disease, much is still lacking to put these details on a scientific and practical basis.

Our knowledge of the treatment of the after-results is also increasing. This has been due to the work of Dr. R. W. Lovett chiefly. The detection, by means of muscle tests, of mild grades of paralysis or simple weakness, has thrown much light on the frequency of so-called abortive cases, as well as giving a cue to proper treatment. Except for these tests, many mild cases escape notice, with disastrous results in after years.

Dr. Lovett will hold another series of clinics this summer at Rutland, Burlington, St. Albans, Barton, St. Johnsbury and Montpelier. Doctors Taylor and Amoss will attend these meetings and speak on the diagnosis, symptoms and treatment of the disease. These meetings (clinics) will be under the joint auspices of the State Board of Health and the State Medical Society. Health officers and physicians are invited. The first of these meetings will be at the Rutland Hospital August 2, the clinic be-

ginning at 9 a. m. Proper public announcement of all will be made.

Physicians and parents should not forget that the usefulness of paralyzed muscles in maturity depends upon the patient persistent training of such muscles during the years of the child's development.

Chronic cases are apt to become a bore. Yet carefully supervised exercises with proper mechanical help or operation in these cases are sure to yield results which repay our persistence. Neglect of these precautions frequently spells a lifetime of crippledom.

The doctors and parents in Vermont must be again reminded that Dr. Lovett's services are free to these old cases. Furthermore, Miss Merrill, who has had much experience in supervising the treatment of these cases here and in other states, is to be in Vermont all summer, with Miss King. The latter will remain here for a year at least, supervising this work. So the after-treatment of these little patients in Vermont is to be prosecuted energetically and by skilled persons. We are proud of the fact that this state-wide after-treatment, thanks to Dr. Lovett and the donor of our "Special Fund," has become known as the "Vermont Plan." It is now being adopted in New York and other states.

CHARLES S. CAVERLY, M.D.
Pres. Vt. State Board of Health.
Rutland, Vt., July 18, 1917.

Beginning with the July 1917 number (No. 1 of Vol. X) *The Bulletin of the Medical and Chirurgical Faculty of Maryland* will be published without advertising matter and will be devoted purely to the business interests of the Association.

THE DIAGNOSIS AND MEDICAL CARE OF MASTOIDITIS

GEORGE G. MARSHALL, M.D.
Rutland, Vt.

Read at the Quarterly Meeting of the Rutland County Medical and Surgical Society, April 10, 1917.

In writing this paper I have only endeavored to enumerate and emphasize those symptoms and conditions which the general practitioner may recognize, thus enabling him to better handle cases of middle ear infection.

Mastoiditis may at any time complicate acute otitis media, thereby adding to the gravity and duration of the sickness. Mastoiditis is usually secondary to infection of the middle ear. Middle ear infections generally being complications of the acute infectious diseases, principally tonsilitis, grippe, scarlet fever and diphtheria. It is not infrequently caused from improper douching of the nose. The mucous membrane of the Eustachian tube, middle ear, antrum and mastoid is continuous. Probably in the majority of purulent infections of the ear, the mastoid is more or less involved. The classic symptoms of mastoiditis are simple and unmistakable. Pain, loss of hearing, purulent discharge from the ear, tender on pressure over the mastoid, temperature, sagging of the posterior wall of the external canal, and loss of the normal land marks of the ear drum. Later swelling back of the ear may appear. But since mastoiditis is most always a secondary infection, many of these symptoms may have existed for some time, and may now be caused by the primary trouble, thus making diagnosis less simple. Let us review each of these symptoms separate-

ly and give them their proper significance. First, pain usually is deep seated, continuous and often radiating over that side of the head affected, and not relieved by an incision of the drum. It must be remembered, however, that pain may be entirely absent or so trivial as not to be mentioned. Hearing is usually very defective, but the hearing may have been very poor previous to the present trouble. A persistent purulent discharge from the middle ear which shows no tendency to stop, and which immediately fills the canal as soon as it is cleansed, pouring through the opening in the drum in an almost continuous stream, is strong evidence that the mastoid is involved. A polypus in the ear may be the cause of a continuous profuse discharge, and one that cannot be cured until the polypi are removed. On the other hand there may be no discharge. The drum may even show nearly a normal appearance, and yet there may be present an extensive bone necrosis. Tenderness: there are usually three points of tenderness on pressure. First, over the antrum, second, the mastoid tip, and third, over the emissary vein. The manner of eliciting tenderness is important. The auricle itself should not be disturbed, care to be taken to make pressure only on the bone. This tenderness may be very acute, or it may only be elicited by firm pressure. This, like the other symptoms, may however be absent. A thick ebonized mastoid may give no pain on pressure. It is also well to mention here that probably in every severe case of acute otitis media, the mastoid is tender on pressure, but we should make a mistake to confirm all these cases to a mastoid operation. While the temperature often runs from 100 in the morning to 103 or higher in the evening, it is not infrequent that they have no temperature, or, if they have, it may be dependent on some co-existing trouble, so that a rise of temperature, while important, is not at all a conclusive symptom. Swelling only appears the evening, it is not infrequent that they at a late stage, excepting in children. The swelling back of the ear obliterates the post-oricular fold and the ear stands forward and at a lower level. It would be a mistake to wait for swelling, as this only occurs when infection has burrowed forward to the periosteum. Swelling also is often caused by furunculosis of the external canal. Swelling in such a case is diagnosed by a careful examination of the auditory canal. Sagging of the deep posterior wall of the canal, while characteristic, may be simulated by a furunculosis in the canal. This condition can be differentiated if one is able to see the ear drum. The discharge would not be as profuse nor of as long standing, the hearing is not usually as profoundly affected, and relief follows the opening of the furuncle.

How shall we then know when we have a mastoiditis when the symptoms may be so varied? A continuous profuse purulent discharge, with sagging of the posterior wall of the canal, together with loss of all land marks of the ear drum, with or without pain, temperature or tenderness, is sufficient evidence for a diagnosis. Blood examination is of corroborative value only. Cerebral complications are not infrequent. Marked fluctuations in the temperature, excessive persistent headache, nausea, vomiting and vertigo are symptoms strongly suggestive of intra-cranial involvement.

Note—In spite of these suggestions,

one may consider himself fortunate if he is not sometimes deceived, attributing the tenderness over the mastoid to a hypersensitiveness or a protracted temperature to a typhoid condition, neglecting operative measures until some cerebral complication has taken place.

Prophylaxis and Treatment

Violent blowing of the nose at any time, especially following a nasal douching, should be avoided. Any patient having an acute infectious disease who develops pain in the ear, the drum should be inspected by means of a good light and speculum, and if there is any bulging, a free incision of the drum should be made. Even if there is no bulging, if the drum is excessively conjested, an incision may be made. You can do nothing so effective to forestall a mastoid infection as an early free incision of the drum. The matter of cleansing a discharging ear is not unimportant. While it may be necessary in many cases to irrigate the ear, it should not be done when the ear can be equally well cleansed by cotton applicators. Cotton should be wound on the applicator so that it will be sufficiently slender to readily enter the external auditory canal as far as the drum. It is not enough to cleanse the ear two or three times a day. It should be thoroughly done during the acute stage as often as once an hour. Once in three hours 50% alcohol drops should be instilled into the ear immediately after thorough cleansing. The drops should always be warm when used. A gentle suction by means of a rubber tubing will facilitate the cleansing the ear. If this method of treatment persistently followed does not give relief, then further operative measures are demanded.

WAR AND PROHIBITION

The prohibition movement appears to be growing steadily stronger and stronger. At present about 85 per cent. of the territory of the United States is dry, and about 58 per cent. of the population. In view of the increasing strength of the sentiment in favor of prohibition, it is not at all surprising that a powerful effort should be made to secure some form of nation-wide prohibition at least during the war. Besides the usual reasons urged in favor of prohibition, special emphasis is now directed to the necessity of stopping the manufacture of alcoholic beverages in order to conserve the food supply and to turn additional labor into channels concerning the usefulness and necessity of which there can be no question. But of all reasons that may be urged against the use of alcoholic drinks, the two that must appeal to physicians with irresistible force are (1) the action of alcohol in lessening all forms of efficiency, physical, intellectual and moral, and (2) the intimate connection always found between drinking, prostitution and the spread of venereal diseases.

Only the other day an experiment was mentioned in *The Journal* (p. 1414) which showed that 50 gm. of brandy causes a depreciation in the marksmanship of expert shots of 30 per cent. in rapid firing and 50 per cent. in slow firing. We know that wars heretofore have resulted in tremendous increase in venereal diseases, not only in the military but also in the civil population. Students of history tell us that such increase may be sufficient to place the stamp of physical deterioration on entire nations. The fate of the movement to secure nation-wide war prohibition through legislative action and in other ways is uncertain. As the first duty of the medical profession is to prevent disease and loss of human efficiency, we must do all in our power to favor such movements. In the meanwhile no time should be lost in putting into effect the excellent recommendations of the General Medical Board to the Council of National Defense that every military command be surrounded by a protected zone in which prostitution and the sale of alcoholic drinks shall be prohibited, and that special efforts be directed toward furnishing the men with suitable opportunities for wholesome recreation.—*Journal American Medical Association,* May 19, 1917.

Vermont Medicine

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Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., July, 1917.

Editorials

THE ARMY MEDICAL SERVICE

The statement we recently quoted in this column as to the excessive mortality among the officers of the Medical Service in France and Belgium, has been contradicted and disproved. In fact it was on the surface as nearly incredible as it could well be made, but it came so thoroughly vouched for that we were forced to credit it, and in fact it was universally believed. But we hope the lessened risk may not deter the doctors from offering their services to the Government. Of course we know that the greater the hazard, the greater the honor. Carlyle says in his *Heroes and Hero-worship*: "It is a calumny on men to say that they are roused to heroic action by ease, hope of pleasure, recompense,—sugar-plums of any kind, in this world or the next! In the meanest mortal there is something nobler. It is not to taste sweet things, but to do noble and true things, and vindicate himself under God's heaven as a God-made man, that the poorest son of Adam dimly longs. Show him the way of doing that, the dullest day-drudge kindles into a hero. They wrong him greatly who say he is to be seduced by ease. Difficulty, abnegation, martyrdom, death are the *allurements* that act on the heart of man." Though the peril is seen to be less than it was represented the need is urgent beyond all words to exaggerate.

THE COLORED GENTLEMAN IN THE FOOD BILL

The Food Bill, now under debate in the Senate, was needlessly hampered by the amendment or rider annexed to it to include the ban on the sale and manufacture of whisky and other distilled spirits. In consequence of this rider the Food Bill itself is hung up indefinitely. We spoke of this clause as unnecessary but there remains a suspicion in our mind that a more discreditable term might be applied to it. At any rate it

is true that without the rider the Food Bill would have passed long ago. Was the whisky rider introduced to kill the Bill? The great objection that is urged against the abolition of distilled spirits is the loss of revenues thereby threatened. It seems that the internal revenue will be diminished by $110,000,000 now paid annually in taxes and by the amount which it is expected the Government will have to pay for the whisky now in bond, before it will acquire the right to destroy it, which sum added to the loss of the annual tax will make a gross figure of over $400,000,000. Well, that was almost exactly the loss of revenue that resulted, in Russia, from the suppression of the traffic in vodka and gorailka. and so far from being an actual loss, it was estimated that the deposits in the Russian banks were increased by something over a billion dollars during the first year under the new conditions. What a cowardly spirit must have actuated those responsible for the terms of the Harrison Law when they dared not include whisky in their list of habit-forming drugs whose sale and use it was desirable to control! Where morphia has slain its thousands, whisky has slain its millions. Is it of no moment that with the suppression of whisky, pauperism would be diminished by a third and crime by a fifth? That it would be possible to convert an enormous number of penal institutions into hospitals, if it were not true that the number of hospitals also would be simultaneously and automatically rendered unnecessary It would not be amiss to offset the $400,000,000 spent thus once for all, with the annual cost in perpetuity of the erection and maintenance of the immense number of institutions which are supported by every state in the Union for the care of the mental moral and physical derelicts who have become the victims of the whisky habit. The word "efficiency" has become from its recent application as odious as was in Shakespeare's time the word "occupy," which was "an excellent good word before it was ill sorted," but, apart from its Teutonic implication, we may say that while all these objections to the whisky trade are strong enough at least to influence, or even if properly weighed, to direct legislation, yet the daily loss in efficiency, while less spectacular, constitutes an immensely greater economic loss. This loss is not the less real because it cannot be expressed in exact terms.

POLIOMYELITIS

The open season for Poliomyelitis set in for Vermont with the report of nine cases in the week June 16-22, four cases being reported from Montpelier, two from Barre and three from Waitsfield. The next week the number increased to sixteen, all the new cases occurring in Montpelier, where several suspicious cases also were under inspection. We hope that the panic of last year will not be reproduced this summer, although we recognize that it was the mysterious character of the disease and its unknown infectivity rather than its mortality that affected the popular imagination. To this effect of course the undetermined period of incubation, and the obscure character of the initial symptoms, together with its disastrous consequences, largely contributed. A portion of the mystery has been removed by the discovery of the virus; the method of com-

munication is believed to be by means of the mucus of the upper air passages; and invaluable work has been done in the treatment of the resultant paralysis. So much progress we can report. In addition to this we have learned that the degree of infection is slight, since statistics show that in 96% of homes where the disease occurred last year in New York, only a single case developed in each family. Effective treatment of the early or prodromal stage is thus a difficult matter. In view of all these things the closing of all places of children's resort is rather calculated to calm the anxiety of the community than really to modify or control the infection. We hope, later in the season, to have some further reports from Vermont of the results following Whitman's suggestion of the good results of astragalectomy in cases of paralysis of the lower extremities and especially some reasonable and approved plan of treatment in the incipient cases.

HEALTH INSURANCE AGAIN

In our April issue we spoke of the question of Health Insurance now being advocated in so many different sections of the United States in connection with the American Association for Labor Legislation. At that time we had not received any authentic statement of the action of the same law in England, where it was introduced in 1912 and where it is still in force, but in an address delivered before the Liverpool Literary and Philosophical Society on February 19, 1917, by Sir James Barr, M.D., Consulting Physician to the Liverpool Royal Infirmary, and reproduced in the June issue of *American Medicine*, the matter is rather briefly alluded to. Briefly, but sufficiently full for our purpose, as it illustrates one great objection which we mentioned in our April issue. We quote a portion of his address:

"Of recent years this country (England) has been copying German socialistic legislation, to some of which I wish to refer. First, that gigantic fraud on the British work people called the National Health Insurance Act. Since then we have had some side light thrown on the working of the Act. At a big luncheon held in London, Sir Edwin Cornwall, M.P., chairman of the joint committee, told the audience: 'A few figures will indicate the gigantic character of the work. There are 2,000 societies, 20,000 branch societies, 14,500,000 insured persons, with an annual turnover of $125,000,000. In 1915 sickness benefits were paid to the amount of $27,150,000, maternity benefits $6,655,000, disablement benefits $4,220,000, doctors 19,010,000, chemists (druggists) $5,520,000, sanatoria $3,555,000.' This leaves $58,890,000 unaccounted for.

"It would be interesting to know how much of this $58,890,000 went in salaries to the armies of officials and committees.

"If this Insurance Act had been worked by the working people themselves, they might have $50,000,000 for distribution as bonuses each year or for investment in war loans. There is one thing certain, that this so-called National Health Insurance Act has not improved the health of the nation. It has provided more or less indifferent medical attention and cheap drugs."

And he might have added the very obvious comment that this immense residue, amounting to nearly half of all

the money collected, was drawn from the scanty wages of the poor *without any return to them* of any kind, and was used by the agents of a powerful trade union to tighten their grip on the throats of the wage earners under the guise of charity. Where are the good old milk and water hypocrites and rogues of our youth, Jonathan Wild, Uriah Heep, John Law? They were better men than the officials of the Health Insurance swindle. At least they wrought less widespread evil.

THE DUTY OF THE MEDICAL PROFESSION

In the National Guard, when its quota is full, there will be 433,800 men; in the new regular army there will be 293,000 men, and in the first draft of the new national army there will be 500,000 men. This makes an army of 1,226,800, whose mobilization is practically immediate. Such an army calls for 8,600 medical men as a minimum provision. This includes only the medical officers who will actually be with the army in the camps, and on active duty—not those who may go to Europe with hospital units or the 1,000 men asked for in France, or the large number of medical men that will be required for administrative work. This is possibly but the beginning. The 500,000 called for in the first draft of the new national army may be followed by a second call for 500,000, possibly for a third 500,000, and even it may be for a fourth 500,000, making an army of 2,000,000 men, as has been prophesied will be necessary. In such an event the medical department of the army will call for a total of 20,000 medical officers, which is nearly 15,000 more than have yet been commissioned. There are in the United States approximately 145,000 physicians; consequently less than one in seven is needed even for full preparedness. Is it possible that there shall finally be difficulty in obtaining voluntarily the medical men needed? We cannot believe so. It is inconceivable that conscription of physicians will ever be necessary. But if we are to get the necessary 20,000 on the volunteer system there must be more eagerness for service shown on the part of our profession than has thus far been shown. May every man who is within the age limit—under 55—and physically and professionally qualified, recognize his debt to his country and his responsibility to his profession!—*Journal American Medical Association*, May 26, 1917.

Communication

DR. TINKHAM EXPLAINS CONDITIONS IN THE VERMONT SCHOOL

The College of Medicine, University of Vermont,

Burlington, July 18, 1917.

Editor VERMONT MEDICINE:

I received your slip and will write you the condition of things as they have developed since this was published some time last Spring.

Soon after war was declared the Council on National Defense wrote me urging, first, that all medical students continue in the study of medicine rather than enlist; and, secondly, that medical schools continue in solid session so that classes could be graduated as rapidly as possible to meet the demands for doctors. It very soon became evident that if schools were to continue in solid session, we would simply graduate what students were now studying medicine and that there would be no entering classes. No students would be qualified so far as the one or two years of college work in addition to a high school course was concerned, and consequently, after a comparatively short time, the Council on Medical Education advised that it was inexpedient to carry out this "hurry up" scheme. This decision was made at a meeting of the Deans of all medical schools of the United States, held in Washington.

During this time the Navy asked if medical schools would be willing to graduate at an earlier date, such men as had received an average of 85 per cent in

their work during their previous three years of medical study. We agreed to do this and I think many other medical schools did the same thing.

As a result of this, five of our men who were among those having the required rating, entered the Navy early in May. These men were advised to continue in college until they had completed eighty per cent of their regular college work for their senior year. This course being pursued for the reason that State Boards of some States have passed legislation which requires a certificate that students must have completed that amount of work before joining the Navy, if they wished to secure their certificate of graduation.

It has been the opinion all along that some way would be found whereby medical students would be exempted from the draft, but up to the present time no such exemption has been made. There is, however, a concerted action being taken by medical schools toward the exemption of medical students—not for any personal reason on the part of schools, but because it is believed that there is an actual shortage of medical men, and any influence, therefore, which tends to divert men from the study of medicine is doing a direct harm to the organization of the army and navy, to say nothing about the medical care of the general public.

The University of Vermont College of Medicine has sent eight men from its graduating class of eighteen, into the army and the navy. I am sure that this is as large, if not a larger, percentage of 1917 graduates than has gone into public service from other medical schools.

Trusting that you may be able to extract from this general statement, the information in regard to the College of Medicine, which you are looking for, I am,

Very truly yours,
H. C. TINKHAM, Dean.

From the Council of Pharmacy and Chemistry

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Borcherdt Malt Extract Company:
BORCHERDT'S MALT OLIVE

A. Klipstein and Company:
LIPOIODINE "CIBA"

Eli Lilly and Company:
PASTEUR ANTIRABIC PREVENTIVE TREATMENT (HARRIS MODIFICATION)

Horace North:
CITRESIA

H. K. Mulford Company:
HAY FEVER POLLENIN FALL-MULFORD
HAY FEVER POLLENIN SPRING-MULFORD

NEW AND NONOFFICIAL REMEDIES

Kephalin-Armour.—The hemostatic phosphatid obtained from spinal cord and brain tissue of mammals. It is essentially the same as brain Lipoid, N.N.R. For a discussion of the actions and uses see New Nonofficial Remedies, 1917, p. 124, under "Fibrin Ferments and Thromboplastic Substances (Kephalin)." Kephalin-Armour is applied freely to bleeding or oozing surfaces in 1 to 2 per cent. suspensions in physiological sodium chlorid solution. Armour and Co., Chicago (*Jour. A. M. A.*, June 2, 1917, p. 1625).

Thorium Nitrate.—A white substance, very soluble in water and alcohol. Soluble thorium

salts resemble alum in their local astringent and irritant properties. They are not absorbed from the alimentary canal. The non-precipitant double salts of thorium are practically non-toxic, even intravenously. Thomium salts are fairly radioactive.

Thorium Sodium Citrate Solution.—Prepared by dissolving thorium nitrate, 10 Gm., and sodium citrate, 15 Gm., in water, neutralizing with sodium hydroxide and diluting to 100 Cc. Being impervious to Roentgen rays, the solution is used to obtain cystograms of the renal pelvis and urinary bladder.

Thorium Solution for Pyelography-H. W. and D., 10 per cent.—It is the same as thorium citrate solution. Prepared by Hynson, Westcott and Dunning, Baltimore, Md.

Stronger Thorium Sodium Citrate Solution.—Prepared by dissolving thorium nitrate, 15 Gm., sodium citrate, 22.5 Gm., in water, neutralizing with sodium hydroxide, and diluting to 100 Cc. It is used for obtaining urethral pyelograms.

Thorium Solution for Pyelography-H.W. and D., 15 per cent.—It is the same as thorium citrate solution. Pepared by Hynson, Westcott and Dunning, Baltimore, Md. (*Jour. A. M. A.*, June 16,1917, p. 1817.)

Betanaphthol Benzoate-Anthony-Hammond Chemical Works, Inc.—A brand of betanophthol benzoate which complies with the N. N. R. standards for this drug. Anthony-Hammond Chemical Works, Inc., New York City.

Calsium Cacodylate.—The calcium salt of cacodylic acid containing from 43.5 to 48 per cent. of arsenic in the form of cacodylic acid and free from arsenite, arsenate and monomethylarsenate. It has the mild arsenic action of cacodylates. Calcium cacodylate is white, almost odorless, and very soluble in water.

Ampuls Calcium Cacodylate Solution-Mulford.—Each ample contains calcium cacodylate 0.045 Gm. in 1 Cc. The H. K. Mulford Co., Philadelphia, Pa.

Chlorazene Surgical Cream.—It contains chlorazene, 1 Gm., in 100 Gm. of a base composed of sodium stearate, 15 per cent., and water, 85 per cent. The Abbott Laboratories, Chicago.

Borcherdt's Malt Extract with Cod Liver Oil.—A liquid composed of cod liver oil, 20 per cent., and Borcherdt's Malt Extract Plain, 80 per cent. The Borcherdt Malt Extract Co., Chicago.

Borcherdt's Malt Extract with Creosote.—100 Cc. contain beechwood creosote, 4 miniums per fluid ounce, in Borcherdt's Malt Extract Plain. The Borcherdt Malt Extract Co., Chicago.

Borcherdt's Malt Extract with Cascara Sagrada.—100 Cc. contain cascara sagrada, 60 grains per fluidounce, in Borcherdt's Malt Extract Plain. The Borcherdt Malt Extract Co., Chicago (*Jour. A. M. A.*, June 23, 1917, p. 1911).

Lipoiodine-Ciba.—The ethyl ester of iodobrassidic acid containing 41 per cent. of iodin. Lipoiodine-Ciba is odorless, tasteless, insoluble in water but very soluble in fatty oils. When administered, it is absorbed almost completely and excreted more slowly than inorganic iodids but more rapidly than with other iodized fats. It is said to be less likely to produce gastric irritation than ordinary iodids. It is supplied only in the form of Tablets Lipoiodine-Ciba, 0.3 Gm. A. Klipstein Company, New York (*Jour. A. M. A.*, June 30, 1917, p. 1985).

PROPAGANDA FOR REFORM

Some Misbranded Cough Remedies.—The following "cough remedies" have been declared misbranded under the U. S. Food and Drugs Act, chiefly because the curative claims made for them were found to be false and fraudulent: Barker's Remedy for Catarrh, Coughs, Colds and Rheumatism is essentially sugar and water with a small amount of cubebs, potassium iodid and creosote.—Mathieu's Cough Syrup, formerly called Syrup of Tar and Cod-Liver Oil, containing little, if any, tar and no cod-liver oil, but containing alcohol, chloroform, creosote and menthol.—Forrest's Juniper Tar, containing alcohol, petroleum and oil of tar.—Terraline Plain, found to be simply liquid petrolatum.—Terraline with Heroin, found to be liquid petrolatum with heroin.—Classe's Cough Syrup, a syrup containing alcohol, glycerin, tolu and wild cherry, and having an odor of tar.—Essence Menthol-Laxene, containing alcohol, methol, ammonium salts, chlorid, sugar, drug extract and an unidentified alkaloid.—Brown's Acacian Balsam, containing alcohol, acacia, nitrate, licorice, meconic acid, tartrates, reducing sugar, sodium and potassium compounds.—Sykes' Sure Cure for Catarrh, containing potassium chlorate, ammonium chlorid and small amounts of alcohol, hydrastin and methyl salicylate.—Warner's White Wine of Tar Syrup, containing opium

and alcohol, no tar and but an insignificant amount of wine. Rawleigh's Golden Cough Syrup, containing alcohol, chloroform, menthol, guaiacol and perhaps horehound.—Rawleigh's Ru-Mex-Ol, containing 26½ per cent. alcohol and vegetable matter in which rhubarb was indicated.—Gooch's Mexican Syrup of Wild Cherry, Tar, etc., containing morphine and alcohol, sugar, glycerin, methyl salicylate and benzaldehyde as flavor, and small amounts of tar and cherry (*Jour. A. M. A.*, June 16, 1917, p. 1863).

Flavored Epsom Salt.—When a physician prescribes a dose of Epsom Salt to be taken in one of the official aromatic waters, he does not create a new invention. Yet the U. S. Patent Office has granted a patent for the "discovery" of a method for flavoring Epsom Salt (*Jour. A. M. A.*, June 23, 1917, p. 1914).

The Calcium Content of the Blood.—It has been found that the calcium content of the blood plasma of cattle is remarkably constant, even when there is a continuous withdrawal as a result of pregnancy or lactation. It has also been found that there is no marked deviation from the normal in the calcium content of the blood serum of patients in the various stages of pulmonary tuberculosis. Even when a high milk diet was furnished over long periods, the calcium content of the blood was not increased above normal. Further, it was shown that the calcium content of the blood serum of normal human adults did not differ from that in sufferers from tuberculosis. Finally, it has been found that the calcium content of blood plasma differs little from the normal in advanced cases of uremia or in hemophilia or in purpura hemorrhagica (*Jour. A. M. A.*, June 23, 1917, p. 1915).

Russell Emulsion and Russell Prepared Green Bone.—The Council on Parmacy and Chemistry reports that "The Russell Emulsion" and "The Russell Prepared Green Bone," put out by the Standard Emulsion Company, are inadmissible to New and Nonofficial Remedies. The Russell Emulsion is said to be composed of beef-fat, cocoanut, peanut and cottonseed oils, held in suspension by albumin. The mixture is called a "physiological emulsion and is exploited on the theory that lime starvation is a main factor in tuberculosis and that large amounts of fat are required for the lime starved. There is no proof that tuberculosis is due to an insufficiency of lime in the tissues, and the claims made for the emulsion are grossly unwarranted. Particular attention is called to the exploitation of the emulsion of one Dr. Hague who talks before medical societies. The Russell Prepared Green Bone is said to be made by digesting chicken bones with hydrochloric acid and pepsin and adding glycerin at the end of the digestion. This is advertised as a lime food. The greater value of a few glasses of milk daily is not mentioned (*Jour. A. M. A.*, June 23, 1917, p. 1931).

More Misbranded Nostrums.—The following "patent medicines" have been found misbranded under the U. S. Food and Drugs Act, chiefly because the curative claims made for them were unwarranted and untrue: Sterline's Asthma and Hay Fever Remedy is a Water-alcohol solution containing potassium and sodium iodids, bromids and acetates, as well as some laxative substance.—Sterline's Bronchial Elixir, solution of morphine, potassium citrate and aromatics in alcohol and water.—Lung-Vita, consisted essentially of a petroleum oil, saponifiable oil and a solution containing sugar and glycerin, with a small quantity of benzoic acid.—Arch Brand Nerve Tonic, a compound hypophosphite syrup.—Arch Brand Blood Remedy, containing 18 per cent. alcohol, sugar, potassium iodid, sarsaparilla and emodin-bearing drugs (*Jour. A. M. A.*, June 23, 1917, p. 1932).

Brom-I-Phos.—The Council on Pharmacy and Chemistry reports that Brom-I-Phos (The National Drug Co.) is not eligible for admission to New and Nonofficial Remedies. The label declared the preparation to contain iodin, bromin and phosphorus in an aromatic base. The A. M. A. Chemical Laboratory found that Brom-I-Phos contained no free iodin, no free bromin and no elementary phosphorus; instead it appeared to be an alcoholic preparation containing iodid, bromid and a little phosphate. The Council rejected Brom-I-Phos because the statement of composition was unsatisfactory and misleading; because the therapeutic claims were exaggerated, and because the combination of bromin, iodin and phosphorus, or of bromid, iodid and phosphate is irrational (*Jour. A. M. A.*, June 30, 1917, p. 2001).

Progress in Medical Science

Humbert investigated thirty-eight cases of pulmonary or meningeal tuberculosis which showed no clinical evidence of renal disease. Bacilluria was found in 16 cases. It appeared from this research that tubercle bacilli might be found in the urinal even when the kidneys revealed no disease at autopsy. (*Revue Medicale de la Suisse,* Romande, Geneva, Jan., 1917.

Sheill reports a very interesting case of direct tuberculous genital infection of the wife by the husband. The husband showed an enlarged and tender right kidney with small areas of disease in the right seminal vesicle and epidedymis. He gave a positive tuberculin reaction and later the extirpated kidney proved to be extensively tuberculous. The wife had always been perfectly well prior to her marriage but five weeks after that complained of some pain in the groin. An examination revealed three swollen and tender lymph glands in the groin with some tenderness of the broad ligament and ovary of the same side. The vagina was negative. Lues and gonorrhoea were definitely excluded. A Von Pirquet, and later a hyperdermic, tuberculin test were both positive. She was given a course of tuberculin treatment during which all symptoms disappeared. She had been apparently cured for over a year at the time of the report. (Case of Tuberculosis of Genital Organs Transmitted from Husband to Wife. S. Sheill, *Dublin Journal of Medical Science,* Feb., 1917.)

Focal Pulmonary Tuberculosis.—Evidence of tuberculous infection was found by Opie in the lungs of fifty adults. He says that approximately one-half of all adults have encapsulated lesions of the lungs or bronchial lymphatic nodes, whereas in one-third pulmonary and lymphatic lesions are firmly calcified and completely healed. Tuberculous pulmonary lesions of adults who have died of diseases other than tuberculosis are of two types: (1) apical tuberculosis similar to the usual type of fatal phthisis and unaccompanied by caseation of the regional lymphatic nodes; (2) focal tuberculosis not more commonly situated in the apices of the lungs than elsewhere and accompanied by caseation (or calcification) of the adjacent lymphatic nodes. Focal pulmonary tuberculosis of adults is identical with the tuberculosis of childhood. It occurs in at least 92 per cent. of all adults. It may be acquired between the ages of 2 and 10 years but in more than half of all individuals (in this city) makes its appearance between the ages of 10 and 18 years. Tuberculosis of children does not select the apices of the lungs, is accompanied by massive tuberculosis of regional lymphatic nodes, and exhibits the characters of tuberculosis in a freshly infected animal, whereas tuberculosis which occurs in the pulmonary apices of adults has the characters of a second infection. Almost all human beings are spontaneously "vaccinated" with tuberculosis before they reach adult life. (E. L. Opie, *Journal Experimental Medicine,* Baltimore. Abst. *Jour. A. M. A.,* June 22, 1917.)

"Extension of Tuberculosis of the Lungs as Shown by the Roentgen Ray," G. E. Bushnell, *Southwest Med.,* El Paso, Tex., May 1, 1917.

Bushnell found paravertebral tuberculosis as a prominent feature in 394

out of 984 cases of pulmonary tuberculosis roentgenagrammed at Fort Bayard. Eighty-nine showed only paravertebral tuberculosis with lines reaching toward the apex more or less. Thirty-nine showed the apices clear. In only two of all the cases was pure apical tuberculosis found. A little over half of the eighty-two cases of paravertebral disease gave no abnormal physical signs. All the eighty-two had had the usual symptoms and eighty had had positive sputum at some period of their sickness. Sixty-two incipient cases admitted in series had positive sputum with one exception. Thirty-seven showed no physical signs. All except two showed paravertebral tuberculosis by the X-ray, and these two showed disease in other parts of the lung. Bushnell holds that this proves conclusively the importance of deep-seated tuberculosis; that so-called incipient cases are not truly incipient but represent an advanced condition in which the old deep seated lesion has extended with the production of a superficial tuberculous broncho-pneumonia.

Fumes of Iodine in the Treatment of Tuberculosis of the Bladder, G. I. Baradulin, *Ruskig Vrach.,* No. XVI. This article reports the use of iodine vapor developed by heating iodoform and then carried into the bladder by a catheter; the method of Farnarier. There is a powerful reaction to the iodine fumes. About 40 cases are reported in 34 of which more or less marked improvement took place. Baradulin recommends this treatment as the best method now available for treating tuberculosis of the bladder.

Some hope appears to be offered by Lewis that chemotherapy may yet be a successful means of combating tuberculosis. He reports that several substances have been compounded which check the growth of tubercle bacilli in the test tube in a marked and specific manner. These substances have also been shown to be capable of penetrating the diseased tissues in living tuberculous animals when properly injected. Chemotherapy in Tuberculosis, P. A. Lewis. *Am. Jr. Med. Sciences,* May, 1917.

H. S. G.

CHEMICAL CLOSETS

Heath officers in small towns and rural communities are frequently confronted with the question as to whether the so-called "chemical closets" which have appeared on the market during the past few years can be considered to be satisfactory from a sanitary point of view. A brief statement at this time of their advantages and limitations is therefore desirable.

A chemical closet is one whose primary object is the chemical disinfection of excreta. This is accompanied by more or less liquefaction according to the nature of the chemical used. The result is accomplished by the introduction into the receiving can, tank, or other device, of an aqueous solution or emulsion of a chemical substance or mixture supposed to possess germicidal and, in certain cases, deodorizing and liquefying properties. There are at least two general types of chemical closet. One of these depends upon the action of an alkaline emulsion of a coal tar or other oily disinfectant, the principal object being disinfection and deodorization, and the other, upon a strongly caustic solution with or without other disinfectants with the additional object

of rendering the tank contents semi-liquid. These closets generally possess, in common with other types of privy, special devices for ventilation. In distinction from other privies, their installation within the house and even in the bedroom or other dwelling room, is being recommended by the manufacturers. Among the special advantages claimed are all the conveniences of the inside water-closet, simplicity of operation and ease and safety of disposing of the liquid material with entire freedom from any objectionable or obnoxious features.

A sanitary privy may be defined as a device in which human excreta may be deposited and, pending final disposal, stored in such a way that there shall be no channel of communication between the excreta and the bodies of human beings. This implies a watertight receptacle protected against invasion by flies or domesticated animals and capable of cleanly and efficient operation, and so operated. As a necessary and indispensable adjunct to a sanitary privy, there must also be provision for the final disposal of the excreta in such a way that it shall be incapable of transmitting disease through the channel of personal contact, food, or water supply. It is also highly desirable that a sanitary privy shall be as free from odors and other objectionable features as possible and shall provide personal privacy, comfort, and convenience.

Without undertaking any description of specific makes of chemical closets, it seems highly desirable to inquire into the general merits of this system and to see to what extent they comply with the essentials of a sanitary system as outlined. The various devices are primarily water-tight receptacles so constructed that access of flies and animals is reasonably prevented, although the mechanical details of certain constructions are not such as to guarantee this result. Instances have been observed in practice where the sliding parts which form the connection to the lower receptacle, through perhaps unnecessarily rough usage, have been so bent out of shape as to destroy the original function of the tightly fitting sleeve. This, however, is a matter of special design and of proper use and upkeep and need not be charged against the principles of the system.

In the secondary matters of privacy, convenience, and freedom from odors, these devices with their special provision for deodorization and for ventilation, are especially commendable. They are also capable of cleanly operation and if so operated, they comply with the definition of a sanitary privy subject to the further requirements of a means of final disposal of the contents in a way that they shall be incapable of transmitting disease. To this end chemical closets place primary reliance upon disinfection. If this be at all times satisfactory and if, in addition, the actual physical disposal of the disinfected material be made with due regard to common decency and cleanliness, the system complies satisfactorily with the requirements of a sanitary system. The essential condition, therefore, is the efficiency and sufficiency of the disinfection itself. In this connection there are certain distinct drawbacks to the system, not as it is laid down in the descriptive pamphlets, but as it would be operated under practical conditions.

Such protective factors as physical removal to a distant point are capable of ready appreciation upon the part of

any person concerned, and, once appreciated, encounter no special difficulties in the way of their complete and satisfactory performance. Where the chief reliance is placed upon the action of a chemical, always a mysterious substance in the mind of the layman, there is much more likelihood of neglect through ignorance, carelessness, failure to order or receive a proper supply, or mistaken ideas of economy. The sufficiency of the system of disinfection recommended, when carried out in accordance with instructions, has been satisfactorily demonstrated in some cases with reference to certain organisms of disease. There is, however, a dearth of reliable information upon this point and in particular it must be noted that the destruction of hookworm eggs, a consideration of great importance throughout a large section of the country in whch installations of this type of closet are most likely to be made, does not seem to have been satisfactorily investigated.

There is also the possibility of misuse of the principles of the chemical closet upon the part of unscrupulous manufacturers, resulting in the employment of chemical substances quite worthless for the purpose, and in the placing of such reliance upon imperfect disinfection as to result in serious consequences. It would seem to be incumbent, therefore, upon the manufacturers of such devices to make such thoroughgoing tests of the efficiency of the chemical substance to be employed, not only against the more common pathogenic bacteria, but also against the much more resistant hookworm eggs, as shall be satisfactory to State and local health authorities; and to furnish suitable guarantees of the constancy and permanence of such chemicals. In particular these tests must be made under practical working conditions, as the value of the phenol coefficient employed in the standardization of commercial disinfectants may be of minor significance in this connection.

Some criticism has been made of the suggestion of installing chemical closets in the living rooms of the home, but this is believed to be more a matter of esthetics than of health and, with proper safeguards as to ventilation, no reasonable objection can be raised against the practice upon sanitary grounds. Neither is it necessary to take into consideration questions of costs of installation and of operation, as these are matters which will be weighed in each individual case against convenience and comfort. It is obvious that the cheaper the installation which will comply with all public health and esthetic requirements the more general will be its adoption.

In brief then, everything depends upon the sufficiency of the disinfection and the means of final disposal. No system should be installed or recommended for installation in the absence of definite and satisfactory evidence that the treatment proposed will in fact destroy pathogenic bacteria and, in those sections of the country where hookworm disease is prevalent, the eggs and larvae of hookworms. While the design and satisfactory operation of such a device is quite possible, its general adoption ought not to be recommended without giving the fullest consideration to the possibilities of mismanagement and it is believed that whatever means are adopted for final disposal, these should be so safeguarded that the almost inevitable failure at times of the chemical toilet may not result in serious danger to the health of those affected.—*Public Health Reports.*

The War

VERMONT STATE COMMITTEE OF NATIONAL DEFENSE, MEDICAL SECTION.

The reorganized Vermont State Committee of National Defense, Medical Section, met at the Hotel Vermont, Burlington, the evening of July 11th.

Various methods of securing more medical men for the Army were considered and the following resolution was adopted and transmitted to the Medical Section of the Council of National Defense at Washington:

Resolved:

That we, the Vermont State Committee of National Defense, Medical Section, recommend to the General Medical Board of the Council of National Defense, that the said Board use its influence with Congress in having the principles of the selective draft adopted for securing adequate medical service for the army and navy; interpreting the words "selective draft" to mean the selection of each physician for the work for which he is specially qualified by training and experience.

The following is as nearly a complete list of Vermont physicians holding Federal Commissions as it is possible to give at this time:

G. L. Bates, M.R.C., Morrisville.
F. E. Clark, M.R.C., Burlington.
V. H. Coffee, M.R.C., Burlington.
E. F. Crofutt, U. S. Navy, Poultney.
H. L. Frost, M.R.C., Williston.
V. P. Genge, M.R.C., Newport.
A. J. Greenwood, M.R.C., Springfield.
T. J. Hagan, 1st Vt. Inf., Pittsford.
L. M. Kelley, M.R.C., Manchester.
C. S. Leach, M.R.C., Hyde Park.
L. J. Lovejoy, M.R.C., Manchester Depot.
G. G. Marshall,* M. R. C., Rutland.
R. L. Maynard, M.R.C., Burlington.
W. H. Mitchell, M.R.C., Shelburne.
J. C. Murphy,† M.R.C., Richmond.
C. J. Rumrill, 1st Vt. Inf., Randolph.
G. A. Russell, M.R.C., Arlington.
D. A. Shea, M.R.C., Burlington.
E. St. Antoine, M.R.C., Burlington.
R. E. Smith, 1st Vt. Inf., Rutland.
W. Stickney, M.R.C., Rutland.
H. W. Taylor, 1st Vt. Inf., Brattleboro.
S. J. Thomas, M.R.C., Enosburg.
R. B. Thomas, M.R.C., Enosburg.
E. A. Tobin, M.R.C., North Bennington.
W. W. Townsend,* M.R.C., Rutland.
H. R. Weston, M.R.C., Windsor.

CANCER DECALOGUE PREPARED BY THE STANDING COMMITTEE ON THE CONTROL OF CANCER OF THE MASSACHUSETTS MEDICAL SOCIETY.

1. The classical signs of cancer are the signs of its incurable stages. Do not wait for the classical signs.

2. Early cancer causes no pain. Its symptoms are not distinctive, but should arouse suspicion. Confirm or overthrow this suspicion immediately by a thorough examination and, if necessary, by operation. The advice "Do not trouble that lump unless it troubles you," has cost countless lives.

3. There is no sharp line between the benign and the malignant. Many benign new growths become malignant and should, therefore, be removed without delay. All specimens should be exam-

*Not yet accepted Commission.
†Deceased.

ined microscopically to confirm the clinical diagnosis.

4. Precancerous stage. Chronic irritation is a source of cancer. The site and the cause of any chronic irritation should be removed. All erosions, ulcerations, and indurations of a chronic character should be *excised.* They are likely to become cancer.

5. Early cancer is usually curable by radical operation. The early operation is the effective one. Do not perform less radical operations on favorable cases than you do on unfavorable ones. The chances for a permanent cure are proportionate to the extent of the first operation. Make wide dissections; incision into cancer tissue in the wound defeats the object of the operation and leads to certain local recurrence.

6. Late cancer is incurable, though not always unrelievable. Radium, X-rays, ligation, cautery, or palliative operations may change distress to comfort and may even prolong life.

7. Cancer of the breast. All chronic lumps in the breast should be removed without delay. Benign tumors can be removed without mutilation. Examine all specimens microscopically. An *immediate* microscopical examination is desirable since, if positive, it permits a radical operation at the same sitting. A radical operation performed ten days after an exploration is almost never successful in curing cancer of the breast.

8. Cancer of the uterus. Any irregular flowing demands thorough investigation. Offensive or even very slight serous flows are especially suspicious. Curette and examine microscopically. Amputate all eroded cervices which do not yield promptly to treatment. Do not wait for a positive diagnosis.

9. Cancer of the digestive system is difficult of early diagnosis, and therefore unfavorable in prognosis. All persistent and recurring indigestions (more especially if attended by change of color and loss of weight) and any bleeding or offensive discharges demand prompt and thorough investigation. Do not wait for a positive diagnosis.

10. Cancer of the skin. Any warts, moles, or birthmarks which enlarge, change color, or become irritated, should be removed promptly. They are likely to become cancer. Do not wait for a positive diagnosis—From *Boston Medical and Surgical Journal,* July 12, 1917.

THE MODERN TREATMENT OF MERCURIAL POISONING

Cases of mercurial poisoning, particularly with mercuric chlorid, are so common nowadays that we should be ready to treat these patients promptly. It is equally essential that every hospital should be prepared to treat patients with mercuric chlorid poisoning properly as soon as they are received. Until quite recently the prognosis was far from favorable; but the considerable degree of success attained of late in the management of mercury intoxication has given new hope and encouragement for vigorous attention in every case.

The excellent suggestions of Lieb and Goodwin and of Lambert and Patterson on which the prevalent mode of treatment is based have lately been supplemented by the further studies of Lewis and Rivers at the Johns Hopkins Hospital. The keynote in the procedure is elimination, which must be encouraged energetically by every avail-

able method. The Baltimore investigators point out that many apparently moribund persons have been saved by properly directed and vigorously pushed therapeutic measures. Death should be the only indication, they remark, for a discontinuance of treatment prior to the complete recovery of the patient.

Inasmuch as the excretion of mercury into the stomach and intestine as well as its appearance in the sweat has been definitely demonstrated by chemical investigations, the instructions to wash out the stomach frequently, to irrigate the colon liberally and to induce perspiration by means of a hot pack are placed on a rational basis. The administration of alkalies is based on the work of Macnider, who, in an article in the *Journal of Experimental Medicine* (1916, 23,171), shows that they are capable of protecting the kidney from the full renal effect of salts of heavy metals like uranium which lead to pronounced nephritic disease as mercury does. Sodium bicarbonate exerts a diuretic action in addition, and there are indications of a decided benefit when it has been employed in mercury poisoning.

The high figures reported for non-protein nitrogen of the blood indicate the retention of nitrogenous waste which is undoubtedly a factor in the early fatal issue of some cases. Lewis and Rivers, therefore, urge the administration of carbohydrate in the form of glucose, either by mouth or intravenously, in a 10 to 50 per cent. solution. In addition to serving as a mild diuretic, it is believed to exert a protein-sparing action and thereby delay the appearance of extreme grades of nitrogen retention which usually precede death.

As an index to the changes in the renal function the specific gravity curve of the urine should be studied in addition to the familiar functional tests for kidney performance. Mosenthal has shown how much information may be gained regarding the condition of kidney function from a study of this factor. In nephritis, marked fixation of the specific gravity at a low level occurs in only the severest types. This is characteristic of a kidney which has no reserve power whatever and is therefore compelled to function constantly at its maximum capacity in order to eliminate the end-products of metabolism which ordinarily find an exit from the body in the urine. The variations in the concentration of the urine, as expressed by its specific gravity, become more and more conspicuous as renal function approaches normal.

The accumulation of reliable guides based on careful studies of mercury poisoning is a fortunate accession to modern therapy. Any treatment which has a rational background of scientific indications to support it is always undertaken with greater zest, confidence and persistence than are the haphazard makeshifts of empiric rules. The indifference bred of failure is no longer justified. Quoting Janeway in respect to the management of cases of mercuric chlorid poisoning every practitioner either should know how to treat these patients, or should get them promptly to the nearest hospital that does.—*Journal A. M. A.*

Dr. Edward A. Tobin, formerly of North Bennington, who has been stationed at the Plattsburg barracks since last October with the rank of lieutenant, M. R. C., has been recently commissioned major.

Dr. J. P. Gifford, of Randolph, has returned home from Rochester, Minn., where he passed a month studying with the Mayo brothers, and Boston, where he has also been studying.

Dr. C. A. Cramton, of St. Johnsbury, has returned home from a month's study at the Mayo Clinic in Rochester, Minn., and also in the hospitals at St. Louis.

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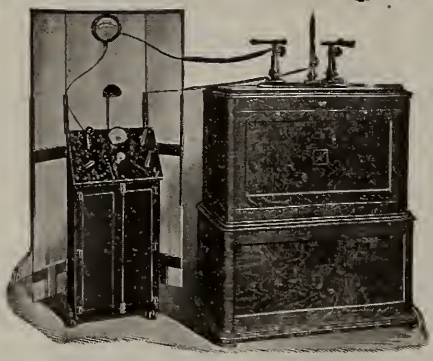

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NEUTRALIZATION OF THE VIRUS OF POLIOMYELITIS BY NASAL WASHINGS.

By Harold L. Amoss, M. D., and Edward Taylor, M. D.

(*From the Research Laboratory* of the Vermont State Board of Health, Burlington.*)

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The occurrence of the infectious microorganism of poliomyelitis—the virus, so called—in the mucous membranes of the nasopharynx and in their secretions is now firmly [1]established.[2] Not only may the virus be demonstrated by inoculation tests during the acute period[3] of the disease, but it is known to persist there in some cases for many months after [4]convalescence[5] and, conversely, it has been detected in certain instances in the washings from the nasopharynx of healthy persons who have been in intimate contact with the acutely ill.[6] Finally, the fact has been determined by experiment that when the virus is introduced directly into the central nervous tissues wherein it multiplies, it also appears in the mucous membranes of the nose and throat. These facts indicate that the nasopharyngeal mucous membranes play an important part in the pathology of epidemic poliomyelitis; and the weight of opinion today is to the effect that the ingress and egress of the virus take place by way of these structures.

One of the most important questions arising out of the data presented above is that relating to the so called healthy carriers of the virus, and for two main reason. The healthy carriers may be the means of transporting the virus to other persons less resistant who may devolop poliomyelitis; or the carrier, healthy when first contaminated, may subsequently develop the infection. At present the means at our disposal for studying the subject of virus carriers are so imperfect that no adequate notion of their number and distribution can be obtained. As long as the inoculation of

*Maintained by a special fund privately donated.

[1]Flexner, S., and Lewis, P. A., *J. Am. Med. Assn.*, 1910, liv, 535.

[2]Landsteiner, K., Levaditi, C., and Pastia, C., *Semaine méd.*, 1911, xxxi, 296.

[3]Flexner, S., and Clark, P. F., *J. Am. Med. Assn.*, 1911, lvii, 1685. Landsteiner, Levaditi, and Danulesco, *Compt. rend. Soc. biol.*, 1911, lxxi, 558.

[4]Lucas, W. P., and Osgood, R. B., *J. Am. Med. Ass.*, 1913, lx, 1611.

[5]Kling, C., Pettersson, A., Wernstedt, W., and Josefson, A., *Communications Inst. méd État à Stockholm*, 1912, iii.

[6]Flexner, S., Clark, P. F., and Fraser, F. R., *J. Am. Med. Assn.*, 1913, lx, 201. Kling, C., and Pettersson, A., *Deutsch. med. Woch.*, 1914, xl, 320.

monkeys with the washings from the nasopharynx must be relied upon to furnish this information, complete knowledge cannot be acquired.

There is, however, another fact which may prove to be significant. Assuming that during the prevalence of epidemics, many persons become contaminated with the virus, the question arises whether this condition need necessarily be a menace either to the contaminated person himself or to others. The answer to this question may lie in the reaction of the secretions of the nasopharyngeal mucous membranes to the virus present upon them. It is possible that in one person the secretions do not exercise a harmful action on the virus, while in another they do. This injurious action upon the virus may be of the nature of a protection to the individual contaminated as well as to the public in general.

It has often been observed that washings made from the nasopharynx may be ineffective when introduced into monkeys, and the lack of power to cause infection has been attributed to insufficient quantity or low infective power of the virus believed to be contained in the secretions removed. No note has been taken of the possibility that the washings are ineffective because the secretions of the mucous membrane are destructive or neutralizing to the virus of poliomyelitis. While this possible action may affect the inoculation tests in cases of acute poliomyelitis, it would be far more likely to be operative in the supposed carrier because of the small amount of virus and the probability of diminished virulence in the latter. Because of these considerations, a series of experiments was carried out to determine (1) the smallest quantity of a standard virus which can be detected in washings, and (2) the action of the washings of different persons upon the virus itself.

Reference has already been made to the fact that nasal washings, of contacts especially, have in a few instances produced poliomyelitis when injected into monkeys. As the virus obtained directly from human beings possesses low virulence for monkeys, and is injected greatly diluted, the small number of successful inoculations is significant. Tests were made to determine the effect of concentration of washings on the activity of the virus. Amounts of virus which would certainly produce the infection if injected directly were added to a filtered washing fluid obtained from persons not having been exposed to the infection. The mixtures were separately reduced to small volume *in vacuo* at low temperatures and injected into monkeys. The results obtained were variable, for reasons which at first were not obvious, but the tests nevertheless showed that the filtered virus in certain amounts may withstand concentration in washing fluids without losing entirely its infective power.

EXPERIMENTAL

Experiment 1.—The nasal cavities of a normal adult, H. L., were rinsed thoroughly with 50 cc. of distilled water. The collected fluids were passed through a Berkefeld filter and 0.2 cc. of a Berkefeld filtrate of a 5 per cent suspension of poliomyelitic brain was added. The mixture was reduced *in vacuo* at 37°C. to 4 cc. and injected intracranially, under ether anesthesia, into a *Macacus rhesus*. The monkey became partially paralyzed on the 10th day, completely prostrated on the 12th day, and died on the 14th day. Typical lesions of poliomyelitis were present.

Experiment 2.—The washings of a normal adult, W. T., were obtained in the manner described above. To the filtered fluid was added 0.5 cc. of a Berkefeld filtrate of active virus. The mixtures was concentrated at 37°C. *in vacuo* and injected intracranially, under ether anesthesia, into a *Macacus rhesus*. The monkey remained well. As the result of a later protection test the monkey died of poliomyelitis after an appropriate injection of potent virus.

Filtrations through Berkefeld or other porcelain filters is undertaken to remove the bacteria always present in the nasal and buccal secretions. But the bacteria can be either killed or their multiplication inhibited by certain antiseptic chemicals which affect to a less extent the virus of poliomyelitis. Thus 0.5 per cent carbolic acid destroys pyogenic bacteria in tissues and leaves the virus intact. Experiments also showed that ether acted more severely on the ordinary bacteria than on the virus. In order, therefor, to obviate any loss of virus which might result from its retention by the filters, ether was employed to sterilize the washings. Preliminary tests showed that contact of ether for 20 hours with the virus contained in an emulsion of the spinal cord does not destroy it. The test made with washings indicates that while a shorter exposure may not kill all the bacteria, yet they are so greatly diminished that no ordinary infection is produced on inoculation into monkeys. And yet, as the experiments which follow show, while the filtrate contained in 0.8 per cent salt solution is active after the ether treatment, that mixed with the nasal washings is ineffective. The ineffectiveness at first believed to have been due to injury of the virus by the ether or too great dilution of the fluid inoculated, is now probably explicable in other ways.

Experiment 3.—1.8 cc. of a Berkefeld filtrate of active virus were added to 4.2 cc of isotonic sodium chloride solution and 1 cc. of chemically pure ether. The mixture was shaken for 20 hours at room temperature. The ether was allowed to evaporate and 1 cc. of the remaining mixture, representing 0.3 cc. of virus filtrate, was injected intracranially, under ether anesthesia, into a *Macacus rhesus*. The monkey was almost prostrate on the 7th day, completely prostrate on the 8th, and etherized when moribund on the 10th day. The lesions were typical.

Experiments 4.—To 100 cc. of nasal washings from two normal adults was added 1 cc. of a Berkefeld filtrate of mixed virus, 0.1 cc. of which produced paralysis in the control monkey in 7 days. 5 cc. of chemically pure ether were added to the mixture and the whole was shaken for 20 hours at room temperature. The ether was allowed to evaporate, and 2 cc. of the mixture were injected intracerebrally and 98 cc. intraperitoneally under ether anesthesia into a *Macacus rhesus*. The monkey remained well.

Berkefeld filters withhold even very minute particles in greater amount when they are contained within a viscid or glutinous liquid. All the washings contain mucus; hence a procedure was adopted to modify the mucin so as to avoid this difficulty without at the same time injuring unduly the virus itself. The procedure consists in treating the washings with sodium bicarbonate, filtering, and then concentrating *in vacuo* at 37°C. The virus is little injured. When 0.1 cc. of a filtrate, which is on the limits of a minimum lethal dose, is used, the resulting concentrated fluid may be ineffective; when 0.2 to 0.3 cc. is employed infection results. The next protocol in which 0.3 cc. of filtrate was used is an example of the method, but identical effects were obtained with 0.2 cc.

Experiment 5.—The nasal cavity of a normal adult was thoroughly syringed with 50 cc. of sterile distilled water. 0.3 cc. of a Berkefeld filtrate of virus was added, and, after thorough mixing, 0.25 gm. of dry sodium bicarbonate was added and the fluid shaken for 20 minutes with beads. After centrifugation at high speed for 3 minutes the fluid was decanted and passed through a Berkefeld candle V. The precipitate was washed and filtered through the same candle. The mixture of the filtrates was reduced *in vacuo* at 36°C. to a volume of 2 cc., which with rinsing water was transferred to a collodion sac and dialyzed for 1 hour.

Under ether anesthesia a *Macacus rhesus* received half (3.5 cc.) of the resulting liquid into the left, and the other half into the right cerebral hemisphere. No symptoms were observed until the 6th day when the monkey became ataxic and excitable. The monkey was prostrate on the 8th day and died on the 14th day after injection. Typical microscopic lesions of poliomyelitis were present.

The treatment of the washings with sodium bicarbonate renders the effect of the inoculation certain when the use of larger quantities of the virus with washings alone fails to confer infection. The probable cause of the descrepancy has become apparent only after a more minute study of the properties of the nasal washings; but that the sodium bicarbonate acts either by allowing more virus to pass through the filter or by removing certain inhibitory influences exerted by the washings is directly indicated.

Inactivating Effects of Nasal Secretions upon the Virus.

The results of the preceding experiments which contain obvious discrepancies, suggested a closer study of the secretions of the nose and pharynx from the standpoint of a possible inhibiting or neutralizing action on the virus of poliomyelitis. For this purpose a variety of persons was studied; some were suffering from acute poliomyelitis, and the others were apparently normal individuals.

The nasopharynx was rinsed with double distilled water and the washings were fractionally sterilized by heating to 60°C. for 3 successive days. Each person's specimen was handled separately. In earlier experiments, in order to economize animals, the washings of several persons were often mixed. It now seems not improbable that discordant results follow this procedure. The virus employed was obtained by filtering a 5 per cent suspension of glycerolated poliomyelitic monkey spinal cord. To each 30 cc. of the washings 7.5 cc. of the filtered virus were added. The mixture was then incubated at 37°C. for 24 hours. Control mixtures of virus and distilled water were subjected to the same incubation. Each cubic centimeter of the mixtures then contained 0.2 cc. of the filtrate, or at least two minimum lethal doses of the virus. The results of the first tests are given in Table 1. (See page 193.)

The results of this experiment suggest that the nasal washings of a person suffering from acute poliomyelitis may exercise no restraining influence upon an active virus, while those from healthy persons, under identical conditions of preparation, inhibit its activity.

The next experiment comprised tests on the nasal washings of eight apparently healthy persons. The results are recorded in Table II. At first sight it appears that of the eight specimens of washings, six possessed inhibiting properties and two did not. The question arose as to whether examination by a rhinologist, who would be unaware of the experiment, would disclose any

TABLE I.

Inactivating Effects of Nasal Secretions upon the Virus.

Date	Virus No.	Dose of virus filtrate	In contact with nasal washings from	Method of sterlizing nasal washings before addition of virus	Temperature at which virus plus nasal washings were incubated for 24 hrs.	Result
1916		*cc.*			*°C.*	
Feb. 16	32	0.2	Baby C.; age 3 yrs. Acute stage of poliomyelitis.	Heated 1 hr. at 60°C. on 3 successive days.	37	Monkey died. Typical poliomyelitic lesions.
Mar. 11	32	0.2	W. T., normal adult; age 39 yrs.	"	37	Monkey remained well.
June 2	48	0.2	C.A.R. and L.M. McK (mixed), normal adults.	"	37	"
" 2	48	0.2	"	"	4	"
" 2	48	0.2	H. E. G., normal adult.	"	37	"

differences in the nasal mucous membrances. These examinations, consented to by the persons, were kindly undertaken by Dr. M. C. Twichell. His report is summarized in Table III. The only comment which the examination calls for is that while the anatomical condition of the nasal and adjacent mucosas in the six persons whose secretions contained inhibiting, inactivating or neutralizing substances were normal, those of the other two were more or less pathologic. Just what the relations of this fact is to the effects of the secretions on the virus can only be surmised; but the test demonstrates that the secretions may frequently inhibit the actions of the virus in monkeys. The control tests (Table II) show that, under the conditions of the experiments, distilled water injuries the filtered virus less quickly than isotonic salt solution a fact possible dependent upon the different osmotic conditions present in the

TABLE II.

Inactivating Effects of Nasal Secretions of Adults.

Date	Dose of Berkefeld filtrate of Virus 48	In contact with nasal washings from	Method of sterlizing nasal washings before addition of virus	Temperature at which virus plus nasal washings were incubated for 24 hrs.	Result
1916	*cc.*			*°C.*	
Apr. 26	0.2	M. J. P., normal adult.	Heated 1 hr. at 60°C. on 3 successive days.	37	Monkey remained well.
" 26	0.2	E. S. S., " "	"	37	"
" 26	0.2	V. H. S., " "	"	37	"
" 26	0.2	C. A. R., " "	"	37	"
" 26	0.2	L. M. McK., normal adult.	"	37	"
" 26	0.2	G. H., normal adult	"	37	"
" 26	0.2	J. P. B. " "	"	37	Monkey died. Typical lesions.
" 26	0.2	H. E. G., " "	"	37	"
" 26	0.2	Control (sterile water).		37	"
" 26	0.2	" (isotonic salt solution).		37	Monkey remained well.

two fluids. The inactivation of the virus through dilution by the washings and incubation at 37°C. would appear to be excluded by the results of the tests with the secretions and with the controls.

TABLE III.

Results of Rhinoscopy of the Subjects Recorded in Table II.

Case No.	Age	Report.
	yrs.	
1 (M. J. P.)	23	Normal nasal respiration; no discharge; no history of colds. Mild hypertrophic rhinitis. Septum deflected slightly to left with large horizontal ridge.
2 (E. S. S.).	24	Normal nasal respiration; no discharge; no throat symptoms; no history of colds. Mild hypertrophic rhinitis; vocal bands red (subacute laryngitis).
3 (V. H. S.)	24	Normal nasal respiration; no discharge; no throat symptoms; no history of colds. Mild hypertrophic rhinitis. Two spurs on left side of septum.
4 (C. A. R.)	20	Normal nasal respiration; no discharge; no throat symptoms; no history of colds. Mild hypertrophic rhinitis; septum deflected, half closes right nasal cavity.
5 (L.M.McK.)	22	Normal nasal respiration; no discharge; no throat symptoms; no history of colds. Mild hypertrophic rhinitis; small ulcer on left side of septum; horizontal ridge on right side of septum.
6 (G. H.)	21	Normal nasal respiration; no discharge; no throat symptoms; no history of colds. Mild hypertrophic rhinitis. Acute pharyngitis of 3 days' duration.
7 (J. P. B.)*	22	Normal nasal respiration but easily obstructed when patient has a cold, especially left side of nose; secretion drops into throat on arising in the morning. Nose narrow; moderate hypertrophic rhinitis; large spur on right side of septum touches turbinate; small ulcer on left side of septum.
8 (H. E. G.)*	25	Nasal respiration interfered with, especially on right side; secretion drops into throat; frequent colds; has cold now. Septum deflected slightly to right; hypertrophic rhinitis; secretions found in right nasal cavity by anterior rhinoscopy. Acute pharyngitis and rhinitis.

*Remarks by Dr. Twitchell: "No. 7 shows the most marked chronic nasal trouble of all, and I should class it as moderate rather than severe. No. 8, at the time of examination, had an acute rhinitis and an acute pharyngitis. This to a certain extent obscures the findings in this case. Frequent colds are a marked feature in the history of chronic rhinitis. No. 8 is the only one giving this history. I should conclude that if a chronic rhinitis produces changes in the nasal secretions, No. 8 would be the one whose nasal secretions were the most changed."

Fluctuations in Inactivating Properties.

Attempts were made to ascertain whether the action described is a constant or a variable property of the secretions. For this purpose washings were made at different times, sterilized by discontinuous heating at 60°C., and tested against 0.2 cc. of the filtrate which in control tests was determined to be potent. The results of these tests are given in Table IV.

TABLE IV.
Fluctuations in Inactivating Properties.

Date	Case	Condition	Dose of virus filtrate.	Result
1916			*cc.*	
Mar. 11	W. T.	Apparently normal.	0.2	Neutralized.
June 16	"	" "	0.5	"
July 12	"	" "	0.2	Failure to neutralize.
Nov. 14	"	" "	0.2	Neutralized.
Apr. 26	H. E. G.	Chronic rhinitis.	0.2	Failed to neutralize.
June 2	"	" " (improved).	0.2	Neutralized.
July 12	"	Apparently normal.	0.2	Failed to neutralize.
Apr. 26	C. A. R.	" "	0.2	Neutralized.
June 2	"	" "	0.2	"
Apr. 26	G. H.	" "	0.2	"
Dec. 18	"	" "	0.2	"
Apr. 26	L. M. McK.	" "	0.2	"
June 2	"	" "	0.2	"
Apr. 26	E. S. S.	" "	0.2	"
July 12	"	Acute Coryza.	0.2	Failed to neutralize.

Of four test with the secretions of W. T., three neutralized the virus; of three with those of H. E. G., only one neutralized it; of two with washings from C. A. R., G. H., and L. M. McK., respectively, all neutralized it, while in the case of E. S. S., one neutralized and the other did not. The animals that did not come down were subsequently determined to be susceptible to inoculation with the virus, so that the neutralization effects could not have been simulated by an excessive resistance on their part.

In addition to the tests described, which were conducted chiefly with adults, several were made with washings from children either healthy or suffering from poliomyelitis. The results are not wholly concordant. A larger series may possibly clear up the discrepancies.

Aug. 9, 1916. The washings of C. A., an apparently healthy boy, age 14, failed to neutralize 0.2 cc. of filtrate.

Oct. 23, 1916. The washings of R. J., age 8, taken during the acute attack of poliomyelitis, but after immune serum had been administered, neutralized 0.2 cc. of filtrate. A control monkey developed fatal, typical poliomyelitis.

Nov. 14, 1916. The washings of R. C., age 8, taken on the 15th day of the attack of poliomyelitis neutralized 0.2 cc. of filtrate. This patient had not been treated with immune serum. The control animal developod typical fatal poliomyelitis.

Feb. 16, 1916. The washings of B. C., age 3, taken during the acute stage of poliomyelitis did not neutralize the filtrate. Immune serum had not been given.

While the number of observations is too small to draw definite conclusions, it is obvious that the secretions of apparently normal persons vary in the so called neutralizing power. Of the two patients with poliomyelitis whose secretions inhibited action of the filtrate, one had received immune serum, while the washings were taken from the other on the 15th day, or at a time when immunity principles are known to be present in the blood.[7] The third child

with poliomyelitis yielded washings without neutralizing effect; but they were taken earlier (4th day) in the course of the infection and at a time when the immunity bodies were probably not yet abundantly present. It is possible that some relation exists between the presence of definite immunity principles in the circulating blood and the power of the nasal washings to neutralize the virus.

In each series of experiments the potency of the virus was established by control experiments, and subsequently all the monkeys not showing symptoms were tested for immunity by appropriate injections of the virus and were all found to have been susceptible to infection. Hence the lack of response was not caused by an immunity of the animals employed. The secretions of three persons out of six examined varied in their power to neutralize 0.2 cc. of the virus filtrate at different times under nearly identical conditions, yet the only known clinical differences consisted in the presence of a rhinitis which appears to remove the inactivating power of the secretions.

[7]Flexner, S., and Amoss, H. L., *J. Exp. Med.*, 1917, xxv, 499.

Fluctuations of the Inactivating Power in Abnormal Nasal Conditions.

In April, 1916, the nasal secretions of E. S. S. neutralized 0.2 cc. of the virus filtrate, but 3 months later, during an attack of acute rhinitis, they did not. The washings from C. A. R. twice neutralized the same amount of virus at different times. Later, immediately following an acute rhinitis, no neutralizing power was observed, but the neutralizing power returned in 4 days.

The washings from H. E. G., taken when rhinoscopy revealed acute congestion of the nasal mucosa, did not possess neutralizing power, but 5 weeks later when the nasal condition had improved the washings showed the inactivating power. Six weeks after the second tests when there were no subjective symptoms of rhinitis, the washings failed to neutralize the virus. Finally, it will be recalled (Table III) that out of eight samples of nasal washings taken from apparently normal adults, only the two which were taken from subjects in which rhinoscopy revealed an acute rhinitis failed to inactivate the virus. H. E. G. is included in this list.

Effect of Fractional Sterilization and Filtration on Inactivation.

The experiments recorded indicate that the washings sterilized fractionally or passed through Berkefeld filters inactivate or neutralize virus mixed with them in the form of a filtrate of a suspension of the spinal cord of a poliomyelitic monkey. There can, therefore, be no doubt that the procedures do not themselves remove the neutralizing substances. Tests were then made to determine the comparative or quantitative effects of the procedures.

The quantity of filtrate employer for inoculation in this series of experiments was 0.4 cc., or more than four minimum lethal doses. The rinsings of the nasopharynx were made with redistilled water and they were reduced to a uniform volume of 15 cc. by concentration *in vacuo*. The fractional sterilization was carried out at 60°C. on 3 successive days. The washings and virus were left in contact 24 hours before the inoculations were made, in some instances at 37°C., in others at 4°C. The injec-

tions were intracerebral into *rhesus* monkeys under ether anesthesia. The results are given in Tables V and VI, and the comparison in Table VII.

The results lack absolute consistency. Considering the quantity of virus employed, the neutralizing action becomes more impressive. The variations in specimens from the same individual cannot now be accounted for. The existence of acute rhinitis, however, appears to diminish neutralizing power. Assuming that the process of neutralization is brought about by definite chemical bodies, they would seem to be thermolabile, since the neutralizing action of filtrates is definitely more pronounced than that of the heated specimens. Contact at 4°C. appears less effective in bringing about the neutralization than at 37°C. The prolongation of the incubation period noted in two instances is probably associated with partial but insufficient neutralization to reduce the virus below the minimum lethal dose.

Influence of Heat.

The results given above suggest that inactivating influence is weakened or destroyed by heat. The following experiments gives more definite information concerning this fact.

Washings were taken on Nov. 16, 1916, from W. T., whose nasal secretions had on several occasions proved neutralizing. 60 cc. of sterile distilled water were used and the washings passed through a Berkefeld N candle.

To 10 cc. of washings filtrate were added 2.5 cc. of active virus filtrate and the mixture was incubated at 37°C. for 24 hours. 1 cc. of the mixture, representing 0.2 cc. of the virus filtrate, was injected intracerebrally, under ether anesthesia, into a *Macacus rhesus*. The monkey remained well.

35 cc. of the washings filtrate were reduced quickly *in vacuo* at a temperature between 60° and 70°C. to a volume of 5 cc. 1.25 cc. of active virus filtrate were added and the mixture was incubated at 37°C. for 24 hours. 1 cc. of the mixture, representing 0.2 cc. of virus filtrate, was injected intracerebrally, under ether anesthesia, into a *Macacus rhesus*. The monkey was completely paralyzed on the 7th day and died on the 8th day. Typical lesions of poliomyelitis were present.

The neutralizing substance is apparently rendered inactive by heating to 70°C., though this experiment does not exclude volatility as the reason for the disappearance of this substance. Other experiments, however, in which the concentrations were carried out *in vacuo* at 60°C. indicate that the neutralizing substances are not volatile.

TABLE V.

Neutralizing Power of Nasal Washings Heated to 60°C. for 1 Hour.

Monkey	Dose of virus filtrate.	Fractionally sterlized nasal washings from.	Temperature at which virus plus nasal washings were incubated for 24 hrs.	Result
	cc.		*°C.*	
A	0.4	W. T., normal adult.	37	Died in 33 days.
B	0.4	" " "	4	" " 31 "
C	0.4	G.H., " "	37	Remained well.
D	0.4	" " "	4	Died in 11 days.
E	0.4	C. A. R. (acute rhinitis).	37	" " 8
F	0.4	" " "	4	" " 8 "
G	0.4	Control (distilled water).	37	" " 14 "

TABLE VI.

Neutralizing Power of Nasal Washings Passed through a Berkefeld Filter.

Monkey	Dose of filtrate of virus.	Berkefeld filtered nasal washings from.	Temperature at which virus plus nasal washings were incubated for 24 hrs.	Result
	cc.		*°C.*	
H	0.4	W. T., normal adult.	37	Remained well.
I	0.4	" " "	4	Dies in 16 days.
J	0.4	G. H., " "	37	" " 19 "
K	0.4	" " "	4	Remained well.
L	0.4	C. A. R. (4 days after acute rhinitis).	37	" "
M	0.4	" (4 " " " ").	4	" "

TABLE VII.

Effect of Berkefeld Filtration and Heat on the Neutralizing Power of Nasal Washings

Nasal washings from.	Condition of person from whom washings were obtained.	Result of neutralizing test against 0.4 cc of Berkefeld filtrate of virus.			
		Filtered (Berkefeld) washings plus virus allowed to remain for 24 hrs.		Fractionally sterlized washings (60 C. on 3 days) plus virus allowed to remain for 24 hrs.	
		37°C.	4°C.	37°C.	4°C.
W. T., adult.	Normal	+*	—	±†	±†
C. A. R., adult.	Acute rhinitis.			—	—
" "	4 days after acute rhinitis.	+	+		
G. H.,	Normal.	—	+	+	—
Control (distilled water).				—	

*The sign + indicates neutralization; ±, marked prolongation of the incubation period preceding paralysis.

†Incubation period greatly prolonged. Monkeys developed no symptoms until 33 and 31 days, respectively, after inoculation.

DISCUSSION.

The power of the secretions of the nasopharynx of certain but not all individuals to bring about the inactivation or neutralization of the active virus of poliomyelitis has been demonstrated. The term active is employed to indicate that the samples of virus were obtained from strains adapted to the monkey, and could be relied upon to cause infection in the doses employed, almost without exception.

The inactivating property of the secretions mentioned is the more surprising in view of the resistance displayed by the poliomyelitic virus to such chemical antiseptics as glycerol and phenol.

In their manner of action, the neutralizing substances resemble more the specific immunity bodies contained within the blood serum of persons and monkeys who have suffered an attack of poliomyelitis. Like them, they appear to be thermolabile. And yet the experiments here recorded do not actually identify the two classes of substances.

It is known that the blood serum of certain adults who apparently have never suffered from poliomyelitis is

capable of neutralizing[8] the filtered poliomyelitic virus.[9] But in the few instances in which this property has been discovered, the adults yielding the serum had been in contact with acute cases of poliomyelitis, and artificial immunization cannot be excluded.

On the other hand, it seems not improbable that the inactivating or neutralizing power of the nasal secretions may play a part in protection against poliomyelitic infection, and even may represent an external system of defence against invasion of the virus by way of the nasopharyngeal mucosa.

If this view is supported by further studies, we should find that the secretions of children are less frequently neutralizing than those of adults, although many tests will be necessary to establish this distinction. In that case, we find that the secretions of persons attacked by poliomyelitis at the period of onset of the disease lack neutralizing power, although later, when the immunization reactions have been aroused, inactivation may result, as has been shown to happen in particular instances in our series (pages 195 and 196).

It appears, however, that the power of a given secretion to inactivate or neutralize the virus is not wholly a fixed one. Fluctuations in the property have been detected and described. Common and slight inflammatory conditions, *e.g.*, as in acute and even chronic rhinitis, apparently tend to remove or diminish the neutralizing power of the secretions. If this observation should be supported by further experiment, knowledge concerning one of the conditions favoring persistent contamination of the nasopharynx with the virus may be obtained. It does not follow, however, that this contamination need necessarily lead to infection, for the accomplishment of which disturbance of still other defensive mechanisms may be necessary. However, the production of healthy carriers of the poliomyelitic virus may rest upon the power or lack of power in the secretions to inactivate the virus. Should this be the case, then of many persons exposed only a fraction would become carriers, because the greater part would possess secretions capable of neutralizing and hence destroying the virus.

The variation in inactivating power does not depend alone upon inflammatory changes. Irregularities have been noted which cannot now be explained. They may be merely apparent and depend upon the experimental method to which we are at present limited. Inoculation experiments in single series are not wholly trustworthy. Filtration through porcelain is also open to errors of experiment, since the blocking of the porous spaces may easily exclude essential constituents of the washings. Fractional sterilization is also not a wholly reliable means of preventing bacterial development and yet of retaining unimpaired labile organic constituents. In view of all this, some degree of irregularity is to be looked for.

If this property of the secretions to inactivate or neutralize the virus of poliomyelitis is established, comparative tests should be made on large groups of persons at different seasons of the year in order to determine whether it bears any relation to the seasonal prevalence of poliomyelitis.

[8] Flexner and Lewis, *J. Am. Med. Assn.*, 1910, liv, 1780.

[9] Peabody, F. W., Draper, G., and Dochez, A. R., A. Clinical Study of Acute Poliomyelitis, Monograph of The Rockefeller Institute for Medical Research, No. 4, 1912.

We are engaged now in collecting observations covering this point; but reference to the tables will show that most of the tests were made during the spring, summer, and autumn. Moreover, they embraced few children of the most susceptible ages.

SUMMARY.

1. The results of 56 experiments have shown that washings of the nasal and pharyngeal mucosas possess definite power to inactivate or neutralize the active virus of poliomyelitis.

2. This power is not absolutely fixed, but is subject to fluctuation in a given person. Apparently inflammatory conditions of the upper air passages tend to remove or diminish the power of neutralization. But irregularities have been noted, even in the absence of these conditions.

3. Too few tests have been made thus far to ascertain whether adults and children differ with respect to the existence of this neutralizing property in the nasal secretions. While the inactivating property was absent from the secretions of one child during the first days of poliomyelitis, it was present in another to whom immune serum was administered, and is still another on the 15th day of illness when convalescence was established.

4. The neutralizing substance is water-soluble and appears not to be inorganic; it appears to be more or less thermolabile, and its action does not depend upon the presence of mucin as such.

5. It is suggested that the production of healthy carriers through contamination with the virus of poliomyelitis may be determined by the presence or absence of this inactivating or neutralizing property in the secretions. Whether this effect operates to prevent actual invasion of the virus and production of infection can only be conjectured. Probably the property is merely accessory and not the essential element on which defense against infection rests. It is more probable that other factors exist which help to determine the issue of the delicate adjustment between contamination and infection.

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THE NATIONAL BOARD OF MEDICAL EXAMINERS

The National Board of Medical Examiners held its second examination in Washington, D. C., June 13 to 21. There were twenty-four qualified candidates, twelve of whom appeared for examination, the others having been ordered into active duty between the time of their application and the date of the examination. Of the twelve who took the examination nine passed.

The next examination will be held in Chicago, October 10 to 18. The regular Corps of the Army and Navy may be entered by successful candidates, without further professional examination, providing they meet the adaptability and physical requirements.

There will also be an examination in New York City in the early part of December.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., August, 1917.

Editorials

QUACKERY

Within the past few years there has been a notable recrudescence of quackery in many forms and under many different names, which seems in a way to have kept pace with the actual mastery of disease—or control of some diseases—which has resulted from careful and enlightened scientific work on the part of the profession of Medicine. Osteopathy, Christian Science, Chiropractic, Emanuelism, Spondylotherapy, Mind Cure,—it would be tedious to recall the names of them, but their number is legion and their pretensions immense. Well, there is something in them, not much, but something. They all have, in varying degrees, had some ephemeral successes. They have cured some diseases or at least have relieved some sufferers. So did homeopathy in an earlier generation. So, in a period yet more remote, did mesmerism, judicial astrology and witchcraft. So have Lourdes, Guadalupe and St. Anne de Beaupre. At Lourdes it is estimated that about 5 per cent. of the patients have been cured. This is, to be sure, a high average, but perhaps all of these systems of irregular practice have some cures to their credit or they would soon cease to exist. Dr. Holmes says, "The rottenest bank starts with a little specie. It puts out a thousand promises to pay on the strength of a single dollar, but the dollar is very commonly a good one." So these people do doubtless cure some diseases, but it is not due to their activities that the death rate has fallen throughout the world; that diphtheria, yellow fever, smallpox and tuberculosis have ceased to be the hopeless plagues that they were formerly; or that typhoid fever claims so few victims among the armies abroad.

What then is the "good dollar" that remains to them?

The Mussulman who writes a text from the Koran on a piece of paper soaks the paper in a glass of water and then drinks the water, finds therein a

potent cure for many diseases. The patient who takes a drop of a millionth dilution of common salt receives the same benefit. So a bread-pill, or a visit to the Grotto at Lourdes, or a pilgrimage to the Holy Coat at Trèves, have doubtless brought health to many sick persons. These things are not to be denied. Many individuals have had the same power. King Edward the Confessor cured scrofula by laying on of hands and this power remained with the Kings of England for many centuries. Pepys went, on the 23rd of June, 1660, to see Charles II touch the sick that solicited his cure. Dr. Pettigrew says that the number of those who came to be cured was enormous. Charles II cured in twenty years 92,107 persons whose names were inscribed in a register. Evelyn records that in 1683, a Presbyterian, who dared to say that those that the King had touched were as scrofulous afterwards as they had been before, was very properly sent to prison. Dr. Johnson was touched by Queen Anne for the scrofula but without benefit. The royal power had departed. King Philip I of France had the same power and it was continued to his successors for centuries. Plutarch tells us that Pyrrhus could cure diseases of the spleen by rubbing the patient's body with his great toe. Pyrrhus' toe became further famous when, after his death and cremation, this toe was found, like Shelley's heart, to have resisted entirely the action of the fire. St. Bernard cured many cases of blindness; so did St. Patrick. So also did Vespasian, who was a pagan, and worshipped strange gods. Hadrian, likewise a pagan, cured dropsy and fever by touching the patients. Paracelsus, who was born the year after America was discovered, said, "Whether the object of your faith be true or false, you will nevertheless obtain the same effects. Faith produces wonders and whether it is a true or false faith, it will always produce the same wonders." Pomponatius of Padua says, in reference to miracles wrought by the relics of the saints, "Quacks and Philosophers alike know that if the bones of any skeleton were put in the place of the saint's bones, the sick would none the less experience beneficial effects, if they believed the relics to be authentic."

Healing shrines were the object of pilgrimage long before the Christian era. Philostratus' tomb was famed for curing all manner of diseases,—consumption, dropsy, quartan ague, diseases of the eyes, while we are told that the "Excavations of Cavvadias have furnished proof of the miraculous cures that were effected at Epidaurus 500 years before the Christian era, precisely in the same manner as in our time in Lourdes."

Charms, amulets, incantations, talismans, sorcery, witchcraft and magic, all have performed wonderful cures which have been recorded by numerous writers. Burton is full of them and Pliny, with his customary credulity, has recorded them by the hundred.

Now what is the factor common to them all? "The healing gift," many have answered in the past. That is, to be sure, the result of them all, but what does this gift of healing consist in? For among all these various and irregular forms, there must be something constant and invariable to produce these distinct and uniform results. This one principle, this one common factor, is to be found in the persons cured and not in the agent that cures them. Each

brings his own relief, his own benefit, his own cure, to the shrine with him and there enters into the enjoyment of what was already his. It is his faith, his confidence, the hopeful attitude of his mind, that opens up to him his own unconscious resources and gives him that help which he ignorantly ascribes to the supernatural agency of the Saint whom he invokes or to the Christian scientist who mumbles the tiresome formulas of Mrs. Eddy. There is no more scientific name in the medical text-books than the phrase which the church itself introduced, "Saving Faith." This is not yet recognized as a remedial agent by the U. S. P. under the head of "Christian Science" or of "Lourdes," but it is no less active, effective and universal for that exclusion.

The direction of this psychic force to the cure of disease, has been practiced from the time when the first medicine man, with painted face and false horns, beat his tomtom and shrieked out his uncouth incantations before naked savages, to our own day. It bathes in the pool at Lourdes and impregnates the otherwise inert electric belt that restores lost manhood. It is found in every pill that the druggist compounds and enters every draught that the physician prescribes. They reckon ill who leave that out.

Professor Jebb says that "Galen's distinctive aim was to place medical science on a psychological basis by studying the affections of the soul in connection with those of the body." This was an ambitious aim at a time when the normal processes of both soul and body were so little understood as they were at the very beginning of the Christian era. We are not yet, twenty centuries after Galen, in a position where we can carry out this purpose with full knowledge of the processes involved, and yet we recognize more clearly than he could do, the nature of these processes. But while recognizing them to some extent, and while studying them eagerly, we seem to have less success in their application than our predecessors in Medicine. There is no denying the fact that the profession of Medicine, swept off its feet and carried away by the scientific appeal that is so hard to withstand, has lost much of its spiritual influence in the community, and that this loss is being supplied by the various irregular sects that have become so numerous and so flourishing. If this is true it is to be deplored.

THE MEDICAL OFFICER AND HIS RANK

The lowest rank held by a medical officer is that of first lieutenant. As such he is entitled to salute by second lieutenants, sergeants and corporals, as well as by privates of the line. If there is anything that "gravels" even a second lieutenant it is this demand of the service. At one of the training camps for officers of the line and for medical reserve officers, the latter have become accustomed to the somewhat satirical salutes and gibes of the embryo line officers. The "medics" retaliate by good-natured advice to the "boy-scouts." One of the students in the line training camp said. "The hardest thing we have to do is to salute those fellows (the medical officer). They can't march, they salute funny and they are not soldiers anyway you look at it." The attitude of these men who may some day be in a position to reject a suggestion of immense sanitary importance from the men who now amuse them is significant. Perhaps the cure for the problem lies in teaching the line officer the deeds of the medical department in the past, in impressing on him the lessons of the Mesopotamia tragedy, in convincing him that the greatest sacrifice on the altar of duty to one's country is made by the medical officer.—*J. A. M. A.*, Aug. 4, 1917.

Secretary's Page

Since the publication of the official roster of the Vermont State Medical Society the following men have qualified as members in good standing:

Dr. John Tierney, St. Johnsbury, Vt.

Dr. Frank A. Lewis, New York City.

Dr. J. A. Archambault, Essex Junction, Vt.

Dr. J. N. Jenne, Barre, Vt.

Dr. D. O. Powers, Highgate, Vt.

Dr. G. S. Clark, Richford, Vt.

Dr. P. C. W. Templeton, Irasburg, Vt.

Dr. H. E. Somers, West Derby, Vt.

Dr. J. F. Kendrick, West Charleston, Vt.

Dr. F. R. Hastings, Barton, Vt.

Dr. J. W. Estabrook, Brandon, Vt.

Dr. E. R. Clark, Castleton, Vt.

Dr. O. F. Clough, Poultney, Vt.

Dr. B. D. Colby, Sudbury, Vt.

Dr. E. I. Hall, Rutland, Vt.

Dr. H. H. Hanrahan, Rutland, Vt.

Dr. L. A. Heidel, Rutland, Vt.

Dr. E. J. Hudson, Middletown Springs, Vt.

Dr. H. S. Martyn, Cuttingsville, Vt.

Dr. H. R. Ryan, Rutland, Vt.

Dr. R. H. Seeley, Castleton, Vt.

Dr. C. B. Warren, West Rutland, Vt.

Dr. G. B. Maurice, Waterville, Vt.

Dr. S. A. Cootey, Wallingford, Vt.

Dr. T. A. Cootey, Rutland, Vt.

Dr. J. S. Horner, West Pawlet, Vt.

Dr. T. E. Larner, Rutland, Vt.

Dr. E. M. Pond, Rutland, Vt.

Dr. W. E. Stewart, Wallingford, Vt.

Dr. J. E. Thomson, Rutland, Vt.

The War

Attention is directed to an important bill now pending in Congress.

This bill has been approved by the committee on legislation of the General Medical Board of the Council of National Defense and your earnest and active cooperation is asked that this bill be enacted into law. The bill is,

AMENDMENT

Intended to be proposed by MR. OWEN to the bill (S. 1786) to amend certain sections of the Act entitled "An Act for making further and more effectual provision for the national defense, and for other purposes," approved June third, nineteen hundred and sixteen, and for other purposes, viz: On page 7, after line 20 at end of section 10, add the following:

Provided, That hereafter the commissioned officers of the Medical Corps of the Regular Army shall be distributed in the several grades, as follows:

Major generals, twenty-five one-hundreths of one per centum.

Brigadier generals, twenty-five one hundredths of one per centum.

Colonels, four per centum.

Lieutenant colonels, eight per centum.

Majors, twenty-three and five-tenths per centum.

Captains, thirty-two per centum.

Lieutenants, thirty-two per centum.

Provided further, That when called into service the numbers of the officers of the Medical Reserve Corps shall be seven to the thousand of men in the National Guard and National Army and the relative grades of the officers of the

Medical Reserve Corps shall be the same as the grades of the Regular Army.

The President shall have authority to appoint officers of either corps as "consultants," with the duty of acting in an advisory capacity, making inspections and reports on medical, surgical, or sanitary questions, and such other duties as may be required by the chief of the medical department.

This Amendment provides for military rank among medical officers of the Army commensurate with such rank as is already provided for medical officers of the Navy and appropriate to the dignity and importance of the Medical Corps.

This bill touches the medical patriotism of the entire profession. If enacted into law it will be a most significant advance toward the proper recognition of the profession and of its sacrifices in this war. The bill means really that the Medical Corps will be enabled to put its recommendations into prompt execution; it means higher compensation to the doctor in terms of dignity and honor in the Regular Army, in the National Guard, in the National Army and in the public mind.

EXAGERATION OF WAR LOSSES OF PHYSICIANS.

Sensational statements have been made, as that 60,000 British physicians had been lost in the present war. As the entire population of the British Islands is only about 46 millions and the entire British populations of the various other components of the Empire, scarcely as much more, it is probable that, aside from native physicians more or less qualified, who have not participated in the War to any great degree, there were not much more than 60,000 British physicians altogether, at the outbreak of the War. At any rate, only about 12,000 have been employed in military duty and, up to June 25, the total losses for the duration of the War, were: 195 killed, 62 died of sickness, wounded 964. The deaths, with ample allowance for the remainder of the third year of the war, amount to 7 or 8 per thousand, per year. The expected deaths, in peace, for males of the ages covering active military service by physicians, amounts to about 5 per thousand per year. In other words, not counting non-fatal wounds, the military risk amounts to about half of the inevitable risk of death under peace conditions. Yet it is said that the risk has been greatest for medical officers and greater for officers in general than for privates. *Buffalo Medical Journal.*

MILITARY SERVICE FOR LUNATICS.

According to the Associated Press, the annual report of a German Lunatic Asylum at Settin, states that lunatics have proved unsatisfactory, on account of desertions, refusal to obey orders, and general lack of discipline. (Note: There can be no issue of opinion on either the question of efficiency or ethics. The real point at issue, as in regard to rendering corpses, is whether the report is true or garbled.) *Buffalo Medical Journal.*

AMERICAN WOMEN'S HOSPITALS.

The War Service Committee of the Medical Women's National Association has organized the American Women's Hospitals for work at home and abroad. The Surgeon-General of the Army and the General-Director of the Department of Military Relief of the American Red Cross have approved the provision made for service to the army and to the civil population. The work will be officially part of the medical and surgical service of the American Red Cross.

The scope of the plan is a broad one. It includes units for maternity service and village practice in the devastated parts of the Allies countries and hospitals run by women for service there as well as for the United States army in Europe. In this country acute and convalescent cases will be treated in hospitals equipped for the purpose; soldiers dependents will be cared for, interned alien enemies will be given medical aid and substitutes will be provided to look after the hospitals service and the private practice of physicians who have gone to the front.

The first units hope to go to France and to Serbia in the early fall.

Headquarters have been established at 637 Madison Av. New York City. Dr. Rosalie Slaughter Morton is Chairman of the War Service Committee.

WAR ON DISEASE GERMS IS AIM AT NEW ARMY CANTONMENTS

"We intend to make our new military cantonments as safe as science can make them." Maj. Gen. William C. Gorgas, Chief of the Medical Department of the Army, states in an interview. "When a recruit has once passed his examinations—which will be rigid—he may rest assured that the Government will put him into as nearly an ideal sanitary environment as is found anywhere, either in military or civil life.

"We are putting the best brains in the country to work on the problem and have commissioned, as majors in the reserve, specialists in the medical and surgical branches we wish to cover. Maj. William H. Welch, the famous pathologist of Johns Hopkins Hospital, is working with use at our headquarters in the Mills Building. Maj. Victor C. Vaughan, dean of the University of Michigan Medical Department, and nationally known as an authority on sanitation, also occupies a desk here and responds to the title of 'major.' We have Maj. William H. Mayo, of Rochester, on our sanitary board and Maj. Charles Mayo reports here for duty. Maj. Theodore C. Janeway, the physician in chief of Johns Hopkins Hospital and secretary of the Russell Sage Institute of Pathology, heads our cardiovascular section, and Maj. J. E. Goldthwait, one of the great orthopedic surgeons of the country, will look after cases involving defective bones and joints.

"We will take special care of nervous and mental disorders, and Dr. Pearce Bailey, famous as a neurologist and psychiatrist, is working in our department with the rank of major. Mental irregularities are among the most common troubles to be dealt with in modern armies; in fact, the European hospitals have specialized in this particular. Shellshock, of course, requires scientific treatment, and the best results are obtained when the patient is kept

under observation within sound of the guns. It used to be that a malingerer, a coward, or a 'quitter' was rewarded with a kick or treated heroically in the guardhouse. The prevailing practice practice in modern armies prescribes that in many cases proper medical attention be given the man who cannot live up to his duty as a soldier.

"The medical profession has been quick to respond, as the medical profession will always respond, in cases where self-sacrifice and generous giving of brain and strength is required.

"And, speaking again of the cantonments, a million men—as sound of mind and body as we can choose out of the Nation's youth—will soon be moving into camps and barracks under Government supervision. We want the soldier's folks at home to feel that he is going to stay sound, that he is not going to sicken in camp without the privilege of striking a blow for his country. That is not mere sentiment. It is good economics. The rule of our medical force in each cantonment will be watch, watch, watch. Just as we are keeping liquor and vice as far as possibble away from our new troops, so, too, must we declare 'No admittance' to all the germs which of old wrought havoc with armies." *The Official Bulletin.*

WAR MEETING FOR HEALTH OFFICERS

A war meeting will be held at Washington, D. C., Oct. 17-20, 1917 by the American Public Health Association. This will replace the annual meeting which was to be held at New Orleans, La., Dec. 4-7, 1917.

The papers and conferences will deal largely with the health problems created by the Great War—the food supply, communicable diseases among soldiers, war and venereal diseases, war and the health of the civil population, etc.

President Wilson has said: "It is not an army we must shape and train for war; it is a nation." Go to the Washington meeting; then come back and do your bit!

Washington will be crowded and those interested are urged to reserve hotel accommodations at once. It will be easy to cancel reservations; but it may be impossible to obtain rooms at the last moment. Any hotel or railroad can give a list of Washington hotels.

Preliminary programs will be automatically mailed to all members of the A. P. H. A. about Sept. 15th. Nonmembers may receive them free by writing to:

The American Public Health Ass'n.
126 Massachusetts Ave., Boston, Mass.

MILITARY ROENTGENOLOGISTS.

Prominent roentgenologists from various parts of the United States met June 11th at Cornell University Medical College, New York. They were called by order of the Surgeon General's office at the instigation if the Committee on Preparedness of the American Roentgen Ray Society to confer with Major Arthur C. Christie upon roentgenological methods to be employed by this government in the present war.

At the time of this meeting schools were established at Baltimore, Richmond, New York and Kansas City, under the orders from the Surgeon General's office. Chicago, Boston, Los Angeles and Philadelphia, were soon to

follow as soon as instructors should have received commissions from the Adjutant General's office.

The deliberations of this Conference of Military Roentgenologists are of far reaching importance and of special interest to every one personally concerned in the activities of the present war. The committee considered two important features of the service: First, selection; that of checking up roentgenologically the chest of each accepted recruit; and second, care of the injured; the extraction of foreign bodies. The conference maintained that a careful clinical and roentgenological examination of the chest gave the most accurate information upon which to base the acceptance of each recruit for military service.

They also contended that such an examination would not only eliminate pulmonary lesions but would also demonstrate the presence of concealed cardiac, aortic and mediastinal lesions. Also such an examination might further be used to eliminate the question of tuberculosis in a certain number of recruits otherwise to be rejected upon a tuberculosis history or deceptive physical signs. The expense of such an examination would more than be borne by the reduction in the incident of tuberculosis within the ranks and a consequent lessening of pensions incident to the presence of tubercular recruits.

The schools of roentgenology now in session are giving definite instruction along the lines of chest examinations suggested by this Conference as well as developing a technic for the extraction of foreign bodies. Three methods for foreign body localizations are being taught. These are: one, by the use of the fluoroscope and Sutton's direct localization instruments; second, triangulation method by fluoroscope, screen and plate; third, the Hirst compass. Selection of these three does not exclude one's using any other better method when advised. It is desired that Military Roentgenologists should be proficient in at least these three, so that they may be of signal service to the surgeon under whatever field conditions that may pertain.

It is generally admitted that the problem of exact localization is far easier than solving the notty question of knowing when not to attempt its removal. Visualization of foreign bodies has increased the tendency towards attempting their removal. It is to be regretted that in some instances the after results, (sequalae to extraction) apparently seem to be worse than would have been had the foreign body been allowed to remain.

When it has been decided that the foreign body should be removed probably the most satisfactory method yet devised is that of Sutton, which will be quoted as follows:

"This method was suggested by that of Wullamoz for removing foreign bodies from the brain. In addition to the tube and screen, a special instrument is required which, however, is of small cost and may even be improvised The procedure is as follows:

"Having located the shadow of the foreign body by means of the axial ray upon a large screen, firmly supported about six inches above the surface of the part examined, the surface is painted with iodine, cocainized and a small skin incision made in the center of the shadow. The special canula bearing the blunt or sharp trocar, as circumstances may indicate, and held by

a strong clamp at right angles is entered through the shin incision. The room is then darkened and under the guidance of the X-ray the instrument is driven through the tissues. As long as the point is advancing straight toward the anode (and hence toward the foreign body) the shadow of the point will be hidden by the shadow of the upper portion of the instrument.

"When the trocar strikes the foreign body, the patient invariably complains of a sharp pain. Contact is then verified by slight waving movements of the points of the trocar which can be made to cause the foreign body shadow to describe a circular excursion on the screen. "The current is now cut off, the screen removed and the room lighted while the operator continues to hold the trocar immovable. Next the trocar is withdrawn from the canula and one of the small hooked piano-wire indicators inserted in its place. Holding the hook of the latter against the foreign body, the canula is withdrawn and the wire snipped off one-fourth inch above the skin. Over this a fairly thick dressing is applied. If other foreign bodies are present, each may be readily followed to the corresponding foreign body. The particular advantages of this method are:

"1. Operations may almost always be done under local anesthesia.

"2. Changes in the position of the limbs or body do not vitiate the result.

"3. There are no calculations to introduce a possible mathematical error.

"4. The localization may be carried out aseptically without sterilizing the hands."

When Dr. Sutton took charge of the American Ambulance, No. 2, at Juilly, he found inadequate apparatus, so set about devising a method of localizing foreign bodies with only an old coil, tube and screen at his disposal. He finally devised the above described technic and says that it was his custom to make fifteen or twenty localizations, after which he would go to the operating room and remove the bullet, shrapnel or whatever might be at the other end of the hooked wire, by which time his tube would be cool enough so that he could repeat this procedure as long as necessary.

Sutton's method gave 100 per cent successful removals as compared with 95 per cent the best of other methods yet devised. A great advantage in the Sutton localization method is the elimination of all calculations, calbrations, mensurations or skin markings which are so often misleading. A further advantage is that it allows the surgeon later to place the patient in any position desired without in the least influencing the accuracy of the localizing indicator.

C. F. B.

From the Council of Pharmacy and Chemistry

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Diarsenol Company Limited.
- Neodiarsenol.

Hoffmann LaRoche Chemical Works:
- Thiocol-Roche
- Syrup Thiocol-Roche.
- Thiocol-Roche Tablets.

Mallinckrodt Chemical Works:
- Acetylsalicylic Acid, M. C. W.

H. K. Mulford Company:
- Concentrated Solution Sodium Hypochlorite-Mulford.

NEW AND NON-OFFICIAL REMEDIES

Hay Fever Pollenin Spring-Mulford. A liquid obtained by extracting the protein of the pollen of rye, timothy, orchard grass, sweet vernal grass, and red top grass and standardizing the solution to a definite protein content. This pollen extract is said to be useful for the prevention and treatment of spring "hay fever." It is supplied in a four syringe package containing increasing doses of pollen protein and in a one syringe package containing the maximum dose. The H. K. Mulford Co., Philadelphia.

Hay Fever Pollenin Fall-Mulford.— A liquid obtained by extracting the protein of the pollen of ragweed, golden rod and maize and standardizing the extract to a definite protein content. This pollen extract is said to be of value in the prevention and treatment of fall "hay fever." It is supplied in four syringe packages containing increasing doses of pollen protein and in a one syringe package containing the maximum dose. The H. K. Mulford Co., Philadelphia.

Borcherdt's Malt Olive.—A liquid stated to be composed of olive oil 20 per cent., glycerin 10 per cent. and Borcherdt's malt extract 70 per cent. The Borcherdt Malt Extract Co., Chicago.

Citresia.—Magnesium acid citrate, the hydrated acid magnesium salt of citric acid. A colorless salt, very soluble in water and having a pleasant acid taste. It may be administered in place of solution of magnesium citrate by dissolving 25 Gm. in 25 Cc. syrup of citric acid and 125 Cc. water. Horace North, New York.

Pasteur Antirabic Preventive Treatment (Harris Modification).—An antirabic vaccine prepared from brains and spinal cords of rabbits, dead of fixed virus rabies infection, and standardized by the method of Harris. One dose is given for a period of fourteen days. Each dose is sent out separately. Eli Lilly and Co., Indianapolis, Ind. (*Journal A. M. A.*, July 7, 1917, p. 39).

Acetylsalicylic Acid, M. C. W.— A brand of acetylsalicylic acid complying with the standards of New and Non-official Remedies. Mallinckrodt Chemical Works, St. Louis (*Jour. A. M. A.*, July 21, 1917, p. 199).

PROPAGANDA FOR REFORM

Creosote-Delson and Creofos.—Creosote-Delson is said to be "beechwood creosote from which the irritating and caustic properties are removed by fractional distillation." It is marketed chiefly as Creofos. Creofos is said to be Creosote-Delson in an emulsion containing hypophosphites. The Council on Pharmacy and Chemistry declared Creosote-Delson inadmissible to New and Non-official Remedies because its identity and its difference from, and asserted superiority over the official creosote had not been established. It declared Creofos ineligible because its composition had not been satisfactorily declared, because the therapeutic claims were grossly exaggerated, because the name was non-descriptive of the composition and because the inclusion of hypophosphites was irrational.—(*Jour. A. M. A.*, July 7, 1917, p. 58).

Some Misbranded Nostrums.—The following "patent" medicines have been found misbranded under the federal Food and Drugs Act, chiefly because the therapeutic claims made for them were misleading and false: Quaker Herb Extract, a water-alcohol extract of an emodin-bearing drug.—Payne's New Discovery, a water-alcohol solution containing small amounts of baking soda, licorice and extractive mattér from a laxative plant drug.—Payne's Quick Relief, chiefly turpentine with cayenne pepper, resin, camphor and chloroform.—Quaker Oil of Balm, containing turpentine, cayenne pepper, chloroform, etc.—Cooper's New Discovery, a nostrum of the alcohol tonic type, containing 20 per cent. alcohol, some emodin, aloes and a small quantity of oil of sassafras together with reducing sugars.—Cooper's Quick Relief, a liniment consisting of cayenne pepper in alcohol (31 per cent.) flavored with oil of sassafras.—Wilson's Preparation, a powder containing largely starch, acacia and sugar with potassium acetate, calcium hypophosphite and quinin (*Jour. A. M. A.*, July 7, 1917, p. 58-59.)

Venarsen.—William A. Wilson, Kansas City, Mo., writes that he has advised the Intravenous Products Company that after using a great quantity of Venarsen, he can see no more effect on the cases treated than if so much water had been administered, and that this is also the report of Don R. Black, pathologist for Bell Memorial Hospital, University of Kansas

(*Jour. A. M. A.*, July 7, 1917, p. 62).

Triner's American Elixir of Bitter Wine.—The Council on Pharmacy and Chemistry reports that this is a wine to which bitter drugs and laxatives have been added. Though evidently intended for public consumption, it is also advertised to physicians. The composition of this "wine"—some bitter drugs, a laxative and a tannin-containing, constipating red wine—and the advertising propaganda all tend to the continued use of this alcoholic stimulant and thus to the unconscious formation of a desire for alcoholic stimulation. As the medical journal advertisements may lead physicians to prescribe this secret and irrational preparation and thus unconsciously lead to alcoholism, the Council authorized publication of its report (*Jour. A. M. A.*, July 14, 1917, p. 139).

Some Misbranded Nostrums.—The following "patent" medicines have been found misbranded under the federal Food and Drug Act. The curative claims made for them were misleading, unwarranted and false: Poland Wine Bitters, a wine to which emodin-bearing and other drugs had been added.—Koenig's Nerve Tonic, claimed to be a natural remedy for epileptic fits, etc.—Mrs. Edward's Infant Syrup, A "baby killer" containing morphin and alcohol.—Root Juice Compound, which was not a root juice (*Jour. A. M. A.*, July 14, 1917, p. 139).

Tumors in Anilin Workers.—Long exposure appears to result sometimes in the development of tumors of the bladder, with or without the symptoms of chronic anilinism. In Germany many such cases have been observed in past years. At the first sign of trouble with urine or bladder in anilin workers, the advisability of careful cystoscopy should be considered (*Jour. A. M. A.*, July 21, 1917, p. 204).

Low's Worm Syrup.—The A. M. A. Chemical Laboratory reports that Low's Worm Syrup, sold by Smith, Kline and French Company, Philadelphia, contains 0.93 Gm. santonin per 100 Cc., or 4.2 grains per fluidounce, and a laxative drug, probably senna. Each drachm (teaspoonful) therefore contains a little more than one-half grain. The preparation, like so many of the worm syrups on the market, is of the usual dangerous santonin-containing type, although no hint is given of the presence of this drug nor any warning that it contains a poison (*Jour. A. M. A.*, July 21, 1917, p. 225).

News Notes

Dr. Albert L. Bingham, one of the best known physicians in Chittenden county, died at his home in Williston August 6th after a lingering illness. Dr. Bingham attended the normal school in Johnson and was later prepared for college at the New Hampton Institute at Fairfax. He was graduated from the University of Vermont in 1875, after taking a post-graduate course at the University of New York. He began his practice in Williston and was recognized by the medical profession as one of the leading practitioners in the county. He has been health officer of Williston since he began his practice there. Funeral was held at his home in Williston August 8, under Masonic auspices, with burial in the family lot in the village cemetery.

A cable from Palermo, Italy, August 8 gave news that Dr. A. A. Skeels, formerly of St. Albans, was on his way home from Saloniki and would arrive the latter part of the month. Dr. Skeels has just completed his second year in the Royal Army Medical Corps. At the end of his first year's work he was promoted to be a senior officer with the rank of captain. He served under the British government but in his work had the care of the Serbians as he could speak that language. The first year he was with the expeditionary forces in camp but the past year he has been in the Balkans between Monastir and Saloniki, in a stationary hospital, one of the seven large hospitals with a capacity of 7,000 beds, erected by the government. Capt. Skeels came by way of Rome. He had to report at the War Office in London before coming to America.

Dr. L. T. Page, for many years a prominent physicians of Wilmington, died at his home in Lewiston, Me., recently at the age of 51 years. He practiced three years in Brattleboro.

Dr. Robert O. Blood of Wells River has been called to a medical training camp in Indiana and will go from there to France.

First Lieut. S. H. Martin of Alburg Medical Reserve Corps, who was stationed at Oneonta, N. Y., for several days, has now been transferred to the medical officers' training camp at Fort Benjamin Harrison, Ind.

Dr. Leland M. McKinley of Ryegate and Miss Blanche Ellen Urie of Craftsbury were married June 27th at the bride's home.

Dr. Walter D. Greene, a prominent physician of Buffalo, N. Y. died recently. Dr. Greene was formerly of Starksboro, and was well known by many people in that town and Bristol. He located in Buffalo many years ago and was for some years the head of the board of health in that city. He is survived by a wife, and one son, who is also a physician in Buffalo. His funeral was held August 6.

Dr. R. B. Thomas of Enosburg Falls, a first lieutenant in the Medical Reserve Corps, was ordered recently to report for duty at Fort Benjamin Harrison, Ind. Mrs. Thomas accompanied him.

Dr. Henry Wade of Starksboro was injured in an automobile accident near Rutland July 22. He suffered a fracture of the clavicle near the sternal end. It was feared at the time that he might have sustained internal injuries but his recovery was speedy and he returned to his home August 5th.

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Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Vol. II, No. 9 **$1.00 per Annum**

Rutland, Vermont, Sept., 1917.

Editorials

INFECTION FOCI

More and more of recent years we have come to realize the importance of locating the various foci of infection in many cases where formerly no such thing as infection was suspected. Among the many hypotheses which have endeavored to explain, for instance, the incidence of rheumatism, the tonsils escaped all suspicion until recent years, and the prostate and seminal vesicles were regarded as nearly faultless as the known presence of the gonococcus would permit. At least they were considered as not meriting blame for the inflammation of the joints.

We now believe, thanks to the facts that have been brought out by John B. Murphy and Frank Billings, that there are many sinuses, crypts, and cavities in the body where disease germs lurk, waiting for a convenient season to make their attack from an unsuspected ambush. The tonsils, the nasal passages, the lymph glands, the glands of the skin, the alveolar spaces, the frontal sinus, are all proved guilty of harboring the bacteria of infectious disease, which seem harmless guests in their selected abodes, but work dire havoc when they once abandon their habitat. The middle ear, the intestinal tract and the Fallopian tubes form frequent refuges for these destructive bacteria, and it has now become evident that the search for the origin of infectious conditions must include the scrutiny of these possible infective foci. Much stress is laid by Dr. A. D. Black of Chicago on the grave menace that lies in diseased teeth, and he tabulates the results of his elaborate roentgenographic examination of several hundred patients, with some surprising conclusions.

Pus processes, infective foci, were discovered on and about the teeth and gums in 56% of all persons under 25 years of age, which percentage increases to 72 for those between 25 and 30, 88 for those between 30 and 50, and takes in practically all over 50 years of age. In those under 17 years old he regards the tonsils as much more likely to furnish the habitat for destructive bacteria than the teeth, and in fact it has long been a medical commonplace that rheumatism, endocarditis, and probably pneumonia and chorea, have had their ancestral seat in tonsillar crypts. When such colonies or foci are discovered, whether they have as yet given rise to disease processes or not, they should be thoroughly removed. In the greater number of cases, however, we do not discover the focus and prevent the disease, but we have the infection suddenly thrust upon our attention, and we have to discover the focus. Here there opens up before us a great field for investigation, but already enough has been learned to put us quite on our guard as to some important features. Tonsils can no longer conceal their crypts, and pyorrhea alveolaris betrays the pus pockets that must be cleaned out without delay. But when the world is once for all convinced that infection takes place as a rule from the bacteria that lurk and thrive in the mucous folds of the upper air passages, the time will have arrived when perhaps some determined impetus of prophylaxis may make the general adoption of a systematic campaign for clean mouths, noses and throats.

DRAFT EXAMINATIONS

Elsewhere in this issue is an excerpt from the *Bulletin of the Department of Health* of New York City, commenting on the physical condition of the men selected for the first army draft. While the percentage of successful candidates in New York City is not given it seems to be much lower than among the men examined in this State. It is probable that in Vermont not over 40% have failed to pass their physical examination, although here as elsewhere this percentage is ultimately lowered by exemptions granted for different reasons. But it is a sad condition when 40% of our young men between twenty and thirty years of age fail to meet the not very exacting requirements of the physical examination. The standard is by no means a high one and yet two young men out of every five are found disqualified physically in a simple routine examination in the State of Vermont. This condition is to be deplored.

And the disqualifications are as a rule those that have persisted from childhood—defects of vision, of teeth, of the respiratory apparatus, which should have been corrected years before the age when these young men became liable to the present draft. Umbilical hernia too is one of these disqualifying conditions that presents itself with unexpected frequency. There is surely some reason to suspect that the present set of parents is by no means all that it should be. One would think it would prove a humiliating circumstance and weigh severely on the parental conscience to be informed that their sons, in early manhood, when their services were required in their country's cause, had been re-

jected and pronounced unfit to serve because they were physically imperfect, and it can surely be no comforting thought that the disability is directly due to parental neglect when the boys were growing from boyhood to manhood. There certainly seems some justification for that part of the Socialists' creed, which, recognizing the neglect of parents, reverts to the ancient laws of Lycurgus and declares all children to be properly the wards of the State.

Secretary's Page

THE ONE HUNDRED FOURTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY

will be held at Howland Hall, Thursday and Friday, October 11-12, 1917, Barre, Vt.

OFFICERS

President—Dr. C. H. Beecher, Burlington, Vt.

Vice-President—Dr. C. W. Howard, Shoreham, Vt.

Secretary—Dr. Wm. G. Ricker, St. Johnsbury, Vt.

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The President, the Secretary, the Treasurer and four Councillors:

First District (Grand Isle, Chittenden, Franklin and Addison Counties)—E. J. Melville, St. Albans.

Second District (Rutland, Bennington and Windham Counties)—S. W. Hammond, Rutland.

Third District (Orange, Orleans, Essex and Caledonia Counties)—R. M. Wells, Orleans.

Fourth District (Lamoille, Washington and Windsor Counties)—C. J. Rumrill, Randolph.

Local Committee of Arrangements for 1917 Meeting

Drs. M. L. Chandler, W. E. Lazelle, J. H. Woodruff.

Ladies' Committee—Mrs. W. E. Lazelle, Chairman.

PROGRAM

Thursday forenoon, 10:30 o'clock at Howland Hall.

1. Call to order by President, C. H. Beecher.
2. Prayer.
3. Address of Welcome.
4. Reading of Records, Secretary.
5. Report of Committee of Arrangements, M. L. Chandler.
6. Reports of Officers, Committees and Delegates:
   (a) Secretary, Wm. G. Ricker.
   (b) Treasurer, E. H. Martin.
   (c) Auditor, A. S. Patch.
   (d) Executive Committee, and
   (e) Publication Committee, Secretary.
   (f) Legislative Committee, F. W. Sears.
   (g) Necrology Committee, J. D. Hanrahan.
   (h) Medical Education Committee, F. E. Clark.
   (i) Medico-Legal Committee, E. A. Hyatt.
   (j) Health and Public Instruction

Committee, C. F. Dalton.

(k) Councillors from the four Districts.

(l) Delegates to other Societies.

7. Introduction of Delegates from other Societies.

8. Vice-President's Address, C. W. Howard.

Discussion opened by P. H. McSweeney and M. H. Eddy.

9. Paper:—"Version when the second stage of labor is prolonged, with a report of 500 cases," J. M. Hackett, Champlain.

Discussion opened by O. N. Eastman.

Thursday afternoon, 2 o'clock, at Howland Hall

1. President's Address, C. H. Beecher (Subject to be announced.)

Discussion, Alan Davidson and R. M. Wells.

2. Paper—E. O. Crossman.

Discussion, A. O. Morton and T. J. Allen.

3. Paper—A. L. Patch.

Discussion opened by Wm. F. Hazelton and J. N. Jenne.

4. Vermont State Board of Health, C. S. Caverly.

Discussion by H. C. Tinkham and J. Hollister Jackson, Barre.

Fixed Session of the House of Delegates Thursday afternoon at 5 o'clock at Howland Hall in the smoking room.

President—P. E. HcSweeney.

1st Vice-President—F. T. Kidder.

2nd Vice-President—W. E. Lazelle.

Secretary—F. E. Steele.

Thursday Evening, Banquet

(Time and place to be announced)

Guests and ladies are invited.

Anniversary Chairman, J. H. Blodgett, Bellows Falls.

Friday Morning, 9:30 o'clock, at Howland Hall

1. A Clinic on Anaphylaxis with a demonstration of the reaction and discussion of the treatment by Dr. J. A. Turnbull of Boston.

Discussion by B. H. Stone and F. E. Farmer.

2. Paper—"Diseases of the Accessory Sinuses." (name to be announced)

Discussion by M. C. Twitchell and B. F. Gorham.

Friday Afternoon at 1:30 o'clock at Howland Hall

A PATRIOTIC RALLY

The visiting ladies are invited and urged to be present at this session. Three short talks will be given:

1. Lieutenant Colonel H. R. Cosman of Fort Ethan Allen.

2. A Representative of the Council of National Defence to be appointed from Washington.

3. A returned Canadian Medical Officer.

The exhibits of medical and surgical supplies will be at Howland Hall.

The headquarters of the Society will be at Howland Hall during the hours of the Session, and at other times at Hotel Barre.

The Local Committee extends a cordial invitation to the ladies to attend this meeting, as they are taking pains to provide entertainment for them.

On account of the hotel not being large enough to accommodate the entire Society, members are advised to notify Dr. J. H. Woodruff of Barre concerning their requirements for rooms and auto storage. A reply card will be sent out with the official program on or about October first.

REPORT OF THE STATE POST-GRADUATE MEETINGS.

Pursuant to the instructions of the House of Delegates, 1916, a start has been made during the past year toward the holding of Post-Graduate Meetings. Bellows Falls, Rutland, Burlington, St. Albans, Montpelier, and St. Johnsbury were selected as the places for the district meetings, being the most available to all members in the state; and on account of the difficulty of transportation in the winter, the meetings were held entirely during the summer months after the roads were passable for automobiles.

The first of these meetings was a paper on Anaphylaxis, given by Dr. J. A. Turnbull of Boston, in the latter part of May and the early part of June. The number in attendance at these meetings was a disappointment to the officers of the Society, but the lack in numbers was, in certain instances, made up by the presence of interest and enthusiasm. Dr. Turnbull discussed Anaphylaxis, the definition, the method of producing an anaphylactic state, many laboratory facts, types of sensitization, methods of diagnosis, and the treatment of conditions coming under this head. It may be said here that he will be present at the State Meeting at Barre, and will give a clinical demonstration, and a further talk concerning this work.

The second of the series of meetings was held on the subject of Infantile Paralysis, and was conducted by the Vermont State Board of Health, the officers of the Vermont State Medical Society simply co-operating and assisting them so far as they were able. Dr. C. F. Dalton reports the results of these meetings as follows:

The clinics devoted to poliomyelitis patients conducted by Dr. Robert W. Lovett of Boston under the combined auspices of the State Board of Health and the Vermont State Medical Society were as follows:

August 4 at St. Albans.
August 6 at Barton.
August 7 at Montpelier.
August 8 at Burlington.
August 9 at Rutland.

The number of cases seen this year totalled 186, as against 125 last year. Of these 186, 48 were of 1917 origin and 43 more were new at the clinics. 44 1917 cases were seen at Montpelier alone. The total number seen at each clinic is as follows:

St. Albans	22
Barton	24
Montpelier	56
Burlington	48
Rutland	36

The third of the meetings was given in the month of September, by members of the Clinical and Laboratory staffs of the University of Vermont, concerning laboratory aids in the diagnosis of clinical cases.

In this series of meetings again the attendance varied, as also the interest, and at times we were unfortunate in the selection of cases for demonstration.

There seems to have been an impression that these meetings were closely related to the County Society, and in fact, the management of these meetings has been conducted through the officers of the local county officers. As a matter of fact, they are not county meetings at all, but are district meet-

ings and should be considered as such. In some instances the county officers are best located of any one to arrange for the meeting. In other instances the county officers, being non-resident in the place of meeting, have been handicapped in their arrangement, and it is suggested that a special corps of district managers be appointed, one for each district, whose sole responsibility shall be the management of these meetings. It is hoped that the House of Delegates will thoroughly discuss this subject, and bring to us some helpful suggestions. The officers of the State Society are very enthusiastic over the potential value of this work, and as soon as the lack of the past year can be supplied, I am sure that they will grow to be more successful each succeeding year.

The War

TUBERCULOSIS IN THE ARMY

Col. George E. Bushnell, Medical Corps, United States Army, discusses the diagnosis of tuberculosis in the military service in the August number of the *American Review of Tuberculosis.* The diagnosis of tuberculosis especially in the "incipient" stage is at present in an unsettled state. In the military practice this may be said to be a matter of even greater importance than in civil life since it is just as important to know when tuberculosis does not exist as to make the diagnosis when the disease is present. The present situation is furthermore one of peculiar difficulty for the civilian examiner accustomed to accept the statements of patients at their face value, inasmuch as men knowing or suspecting that they have tuberculosis may be anxious to volunteer, while others may attempt to avoid enforced service by false statements as to their physical condition. Examinations must be confined to objective facts, to physical diagnosis. All that can be demanded is that cases of well-marked manifest tuberculosis shall be detected. There is need of a standard to prevent unnecessary rejections, guide the hurried examiner and relieve him from the responsibility of decision and to render justice to all applicants by giving uniform and equal treatment at all recruiting stations. A full discussion of the significance of the various physical findings follows and the findings in different forms of tuberculosis are given at length. He advises against the use of tuberculin in examinations for enlistment. The proper use of X-ray examination for doubtful cases is gone into.

All that is absolutely necessary is to determine the presence of a tuberculous lesion of sufficient size and activity to constitute a cause for rejection, and this can be very well done in a few minutes or less. Doubtful cases should be studied with greater care. He concludes the paper with a detailed account of his rapid method of physical diagnosis and a summary of topical variations of normal signs.—Bushnell, George E.: *Am. Rev. Tub.*, 1917, i, 6.

PHYSICAL CONDITION OF DRAFTED ARMY

The Bulletin of the Department of Health, New York City, makes the following comment on the physical condition of men who are examined for drafting into the army.

"According to press reports concerning the results of the physical examination of men drafted for military service, the proportion of men found physically fit is surprisingly small. This is discouraging, for, while the army standards undoubtedly demand a good physique, they do not, by any means, seek perfection. It is, of course, possible that the results of these first examinations are not fairly representative, and that the proportion of those who meet the requirements will eventually reach a satisfactory average. The results thus far, however, would seem to indicate that we are dealing here with the fruits of individual and community neglect; many of the defects disclosed at these examinations could undoubtedly have been prevented by suitable attention in early life.

"It is significant that the individuals examined represent a class which did not have the benefit of the corrective influence exercised by school medical inspection. Certain it is that the health and physical condition of the coming generation has been much more carefully safeguarded. Each year nearly a third of a million school children in the city of New York are medically examined by physicians of the Department of Health. In one-third of the children various forms of physical defects are found, most of them remediable. It is by insistent follow-up of these cases by the Department's school nurses that a very large proportion of these defects are corrected. That this form of supervision is productive of good results and will, in time, result in a higher average of physical well-being in the adult population of this city, is indicated by the fact that the physical examination of pupils in the upper grades in school, or of high school pupils, regularly, shows a lower proportion of physical defects than that found in the examination of pupils of the lower grades.

"The lesson taught by the results of the draft examinations is plain. We must strive in every way possible to discover and correct physical defects early in life. But this is not all. By insistence on proper living conditions, *i. e.*, good homes, good food, sanitary shop conditions, decent wages and wholesome rest and recreation, we should make sure that physical health will be maintained."

NOT YET TIME TO RELAX

We can be proud of the fact that there is an ample supply of physicians for the immediate needs of our Army, but we must not cease recruiting. An analysis of the needs of our Army made on June 1 indicated that 20,000 medical officers would be required to complete the program for the raising of the Army outlined by Congress and the President, that is, the regular Army, the National Guard and the full National Army. This is a liberal allowance since the maximum Army in the field as at present defined by law is 1,700,000 men. Adopting the minimum estimate that there are now 13,000 medical officers commissioned in the reserve corps, we should continue our efforts not only

until the full 20,000 physicians are provided but also a surplus. It is well to have a big reserve.—*Journal American Medical Association,* Aug. 11, 1917.

UNITED STATES FOOD ADMINISTRATION

Washington, D. C.

The United States Food Administration announces the creation of an Advisory Committee on Public Health. This Committee has been created because the Food Administration, realizing that the nutrition of a people and the condition of its food supply bear intimate relations to the general problems of public health, sought the advice of experts in these lines. Dr. Welch has been named as Chairman of the Committee, the personnel of which is as follows: Leonard P. Ayer, Herman Biggs, David T. Edsall, Cary T. Grayson, A. Walter Hewlett, T. T. Janeway, F. G. Novy, Richard M. Pearce, William H. Welch, and H. Gideon Wells.

Dr. Ayer is permanently identified with the school hygiene movement. He has been director of the Department of Child Hygiene, Education and Statistics of the Russell Sage Foundation during the past ten years; and is the author of books and articles on the educational and statistical phase of health work.

Dr. Biggs is a member of the Rockefeller Institute and an authority on public health and sanitation. As a representative of the Rockefeller Foundation, Dr. Biggs has recently completed a survey of the health conditions of France, with particular reference to tuberculosis.

Dr. Edsall is Professor of Internal Medicine in Harvard University; he has in the past devoted much effort to the investigation of nutritional diseases and within recent years has become identified with research in the general domain of industrial diseases, which bear to nutritional diseases, both in the individual and society, a close relationship.

With the creation of a large army and navy, the public service has a natural relation to the work of food control, and to represent the interests of the armed services of our country, Admiral Cary T. Grayson has been placed upon the Advisory Committee.

Dr. Hewlett is Professor of Internal Medicine in Stanford University and is a recognized authority on the subject of diseases of the circulation and elimination.

Dr. Janeway is Professor of Internal Medicine in Johns Hopkins University; he is the author of books and articles on diseases of circulation and elimination.

Dr. Novy is Professor of Bacteriology in the University of Michigan and through years of active research over the broadest domains of his subject has established himself as an authority upon the subject of general sanitation.

Dr. Pearce is Director of the Department of Research Medicine in the University of Pennsylvania. Dr. Pearce has paid particular attention to the subject of national health and sanitation and has during the past two years, as a representative of the Rockefeller Foundation, completed surveys of the conditions of health and sanitation of Brazil and the Argentine Republic, at the request of the governments of those countries.

Dr. Welch, Professor of Pathology in

Johns Hopkins University, is scientifically and personally regarded universally as the dean of the American medical profession. There are few departments of pathology to which Dr. Welch has not contributed in research; and there are no departments connected with public health upon which he has not impressed the influence of his wisdom and experience.

Dr. Wells is Director of the Sprague Memorial Institute of the University of Chicago, a research institution devoted to the investigation of diseases of constitutional type. Dr. Wells is the author of a very successful work on chemical pathology, the first of its kind in any language, and has contributed important research to many subdivisions of medical science.

It is believed that through the advice and co-operation of this committee, representing specialized workers in the various correlated departments of medicine, the administration of food control will be enabled always to work for the best interests of the health of the different classes in different sections of our country.

In addition Dr. Alonzo E. Taylor and Dr. Ray Lyman Wilbur, members of the Food Administration, will be ex-officio members of the Committee.

The United States Food Administration announces the creation of an Advisory Committee on Alimentation, the purpose of which is to gain the active co-operation of experts in the determination of policies of food control from the standpoint of the science of nutrition. The Committee consists of C. L. Alsberg, Russell H. Chittenden, C. F. Langworthy, Graham Lusk, Lafayette B. Mendel, and E. V. McCollum.

Dr. Alsberg is Chief of the Bureau of Chemistry, Department of Agriculture, and as such is in charge of the administration of the Pure Food Law. Throughout his term of office in this position, six years, the administration of this exceedingly important department has been carried out with distinguished ability, with fidelity to the highest interests of the consumer, and in accordance with a policy of constructive development of the industries devoted to and related to the production of foodstuffs.

Prof. Chittenden is director of the Sheffield Scientific School of Yale University and is regarded as the dean of American physiological chemists. Throughout his nearly 40 years of activity in research, Dr. Chittenden has devoted his largest attention to the problems of human nutrition, in particular to the metabolism of protein. His views concerning the adequacy of smaller amounts of protein in the diet than were customary in Anglo-Saxon countries have gradually received recognition and his recent books on physiological economy in nutrition represent an advance expression of this point of view.

Dr. Langworthy has been for many years the head of the office of Home Economics of the Department of Agriculture. Dr. Langworthy was one of the earlier students of nutrition in our country, having been associated with Atwater in the early days of the history of the calorimeter in the United States, and many of the basal analyses of foodstuffs rest upon his investigations. Dr. Langworthy has carried through and supervised a large number of studies

of regional diets through which our knowledge of the food habits of different sections has been greatly enlarged. In recent years Dr. Langworthy has devoted his attention to the development of the utilization of foodstuffs within the home and his name is thus familiar to the majority of American housewives.

Dr. Lusk is Professor of Physiology in Cornell University Medical College, New York City. A product of the school of Voit and Rudner, Dr. Lusk has devoted the past 20 years to the investigation of the fundamental problems of human nutrition, particularly in the relations of food need and work. The facility of Dr. Lusk in the exposition of the intricacies of his subject is well illustrated by the fact that he is at once the author of a successful book written for scientists and an unusually happy presentation of the subject in primer form for the laymen.

Dr. McCollum, at present a Professor in the Department of Agriculture in the University of Wisconsin, has accepted a call to Johns Hopkins University to be the first Professor of Bio-Chemistry in a newly established department devoted to that subject. Dr. McCollum has executed within the past 10 years fundamental researches dealing with the relationship, in animals and men, of proteins of different sources and also of the important, though but recently discovered, efficiency factors in nutrition, whose absence results in deficiency diseases that are now the subject of great attention and active research in medicine.

Dr. Mendel is Professor of Physiological Chemistry in Yale University. In association with Osborne of the same university, Dr. Mendel has for years been engaged in a comprehensive research on protein metabolism in its relations to growth and health, carried out under the auspices of the Carnegie Institution of Washington. Dr. Mendel has for a long time officiated in an advisory capacity in the Council of Foods of the American Medical Association and possesses wide knowledge in the practical affairs of nutrition.

In addition Dr. Alonzo E. Taylor, Dr. Ray Lyman Wilbur and Dr. Vernon Kellogg, members of the Food Administration, are ex-officio members of the Committee on Alimentation.

Excerpts from Other Journals

THE CAUSES OF JUVENILE DELINQUENCY

The direct relation between delinquency and mental enfeeblement, disease or disorder, is no longer an open question. Indeed, the development of correctional reform—the treatment of the delinquent or other anti-social elements of society—is being carried on principally on this basis. The fact that the delinquent is unable to keep the pace in the general social struggle, and must choose those paths of least resistance, is in itself clear indication that he is in some manner below par. Examinations of various custodial institutions for delinquents has brought to light the fact that a very large proportion of them are feeble-minded or mentally disordered, beyond any doubt, and that a still greater proportion of them are below par physically. The delinquent class is continually being recruited from the ranks of the mentally retarded school child, whose condition is

not recognized, or, if recognized, is not provided for. An intensive study of the mental condition of school children of certain communities carried out by the Public Health Service showed that over 9% of the school children examined were definitely retarded, and that of these 28% and over showed definite physical retardation (*Public Health Reports*, Nov. 17, 1916, and Bulletin No. 77). In many, physical defects and sensory disturbances, easily corrected, are the patent causes of much of the mental retardation. The mentally retarded school child is a positive handicap, and even a danger to the normal child, just as the delinquent is a handicap and a danger to the society in which he lives. In both instances segregation and appropriate training are the only rational treatment. The periodic mental, as well as physical, examination of the school child, and the attachment of trained psychiatrists to the general and, especially, the juvenile courts and custodial institutions, would furnish the material for segregation and training. The endeavors of Healy in the juvenile courts of Chicago have demonstrated the value of this sort of work.

And yet, while defective heredity—mental and physical defect—is so important a factor in delinquency, it is far from being the sole cause. Much of the delinquency of childhood, at least, is due to defective or vicious environment as well as the lack of proper parental or communal supervision. It has recently been shown that juvenile delinquency has risen over 40% in London and over 65% in Munich since the war. This sudden rise cannot, of course, be due to any hereditary or personal change in the younger element, but must be due to the family and general social disorganization incident to war conditions. The proper development of the child during war is a vital problem in national conservation, since it is this younger element which must officiate largely in reconstruction. Every scheme for national preparedness must consider the care and training of the child during war stress. Whether the adverse effects of war—shock, injury, sacrifice, etc.—will have any adverse hereditary influence upon the succeeding generations or whether there is to be a renaissance as a result of the sacrifices and hardships of war, remains to be seen.—*Bost. Med. and Surg. Journal.*

HAY FEVER

The scientists estimate that eighty-five per cent. of the hay-fever cases are caused by the common and giant ragweeds. The disease can be produced in the laboratory from insect-pollinated and self-pollinated plants, but as their pollen is not found in the air and cannot, therefore, reach the nasal passages in ordinary respiration, they are not responsible for hay-fever. Wind-pollinated plants are characterized by inconspicuous flowers, which are without bright colors or scent, and by the large quantity of pollen which they generate. Many wind-pollinated plants, however, have pollen which does not produce hay-fever, like the pines, sedges, etc., or which cause reactions of a mild character, like the amaranths and docks. The trees, which are largely wind-pollinated and frequently distribute their pollen in enormous quantity, usually bloom in the spring, but rarely are responsible for hay-fever. The pines scatter their pollen about as freely as snow, but appear innocent of causing harm to the human race. The pollen of

some of the oaks, willows, ailanthus and other trees give a mild reaction for hay-fever, but not enough to warrant taking them into account.

A study is now being made of hay-fever in the Western part of the country, but is embarrassed by lack of information among the health authorities of the Pacific and Rocky Mountain States as to the exciting causes of this disease. Hay-fever is found to be common throughout the Rocky Mountain and Pacific States, but the common ragweed, which is responsible for so much suffering in the East, is not generally found west of Kansas. But ragweed of the same family grows throughout the Far West, and along with the Western and burweed marsh elders, the sand bur, false ragweed and the cockleburs, so brings up the average of infection that the West has no need to be jealous of the East on the score of hay-fever.

While describing the plants which are responsible for the disease, it is also opportune to say a few words regarding the rose and goldenrod. The rose is insect-pollinated and could, therefore, cause hay-fever only by direct inhalation, as the pollen is never found in the atmosphere. In addition to this, its reaction is practically negative, so that, in spite of the common term applied to the early hay-fever,—"rose cold,"— it is not responsible for hay-fever. The goldenrod has a speculated pollen (20 microns), which gives a positive hay-fever reaction. The flowers, however, are insect-pollinated, and cause hay-fever only on direct inhalation or when used for ornamental purposes, as in room decorations. In most sections the goldenrod continues to bloom many weeks after the hay-fever season is over.

Tuberculosis Notes

Roentgenotherapy of Tuberculous Processes in Bones, Paris Medical, June 2, 1917.—In this article E. Albert Weil says, "In short for bone tuberculosis roentgenotherapy is the best treatment as this alone, without adjuvants, can determine the complete cure. In case of a fluctuating abscess or large sequestra it may not even be necessary to resort to the bistury or curette. By the Roentgen ray sequestra are often spontaneously removed. Heliotherapy and sea air are indispensable only when multiple foci of tuberculosis are present." Weil says that the Roentgen rays have a powerful local action, while heliotherapy has a general action. Two or three weeks after the initial exposure of a lesion to the X-ray the tissue feels less soft and spongy; redness is lessened and healing of ulcerated surfaces has begun. Many radiograms are presented showing the progress and results of this treatment. The dosage and intervals between treatments as well as the total duration of the courses of treatments are considered of utmost importance and are given in considerable detail.

The following abstract from the July number of *The American Review of Tuberculosis* is of much interest. It is however very doubtful if tuberculin treatment should be allowed to replace surgery in cases of monolateral renal tuberculosis in spite of the fine results stated in this article.

Tuberculosis of Kidney and Bladder Clinically Cured Without Operation.—This report refers to patients who have presented themselves with both sides infected or who absolutely refused to be operated. With the best hygienic care, compatible with the patients' occupations, cautioning them not to overdo physical exercise, using extreme gentleness in the care of the cystitis and with small doses of tuberculin regularly given and carefully increased, not necessarily to the highest point of toleration for the individual patient, but to the point of greatest clinical gain, a great many may be relieved, and possibly cured, and certainly may be made more comfortable. Of these fifty patients, 90 per cent. have been able to keep at their work during the course of treatment or were able to return within a very

few weeks. Two patients developed tuberculous epididymitis in the course of their treatment. Great care was taken not to get a reaction with the tuberculin. In the average case 1-75,000 mg. was given twice a week and so gradually increased that there was never a local or general reaction. In those cases complicated by lung infections, this initial dose was reduced to 1-750,000 mg. As a guide for increasing the dose in the majority of the cases, Dillingham relied on the following: a feeling of well-being and less of the tired feeling, increase in weight and appetite, improvement as to frequency either day or night, or both. Along with careful diet and hygienic measures, Dillingham is a firm believer in the use of silver nitrate for bladder irrigations, beginning with a pint of a 1-50,000 solution in distilled water, the rule being not to cause irritation either from the strength of the silver or the rapidity of its injection. In increasing the strength of the silver, which is done as rapidly as possible, the bladder should never burn.—*Report of Fifty Cases of Tuberculosis of Kidney and Bladder Clinically Cured without Operation, F. S. Dillingham, Calif. State Jour. of Med.*, March, 1917.

Phthisis Pulmonales and Other Forms of Intrathoracic Tuberculosis, W. A. Gekler, Arch. of Int. Med., Chicago, July, 1917.—Gekler says that the primary tuberculosis in children results from direct inoculation by inhalation of dried sputum or of droplets of sputum from someone coughing. The first lesion is in the lung near the surface, is usually small and is accompanied by involvement of the bronchial glands, from which most of the symptoms arise. Tuberculosis of the bronchial glands in adults represents a flare-up of an old focus, or less often an infection of a person who has not previously been exposed to tuberculosis. The symptoms are due to glandular disease just as in children.

Pulmonary tuberculosis, he considers as a metastasis from previously diseased bronchial glands, or rarely a direct infection of a previously unexposed person. Pleurisy is a metastasis from glandular or pulmonary diseases; miliary tuberculosis and tuberculosis of kidneys, bones, etc., are more or less extensive metastases from previously diseased glands. He holds the diagnosis of tuberculosis of the bronchial glands to be of the utmost importance as it permits the treatment of the disease before dangerous metastasis has occurred. These views are not specially new but are supported by a large collection of X-ray examinations and clinical data.

Vitality of Tubercle Bacilli outside the Body, M. B. Soparkar, Indian Jr. Med. Research, Calcutta, Apr., 1917, *Abst. Jr. A. M. A.*, Aug. 4, 1917.—It is evident from Soparkar's experiments that there is an appreciable period after the complete drying of tuberculous sputum, during which some of the tubercle bacilli contained therein remain alive. In the case of direct sunlight the time is approximately two hours; this interval is not long, and the danger of infection from tuberculous sputum deposited in open places exposed to the sun cannot therefore be considered to be great. In the case of sputum deposited in a place exposed to diffused daylight the interval during which sputum dust may remain infective can be calculated in days. But here, too, the tubercle bacilli soon lose their virulence if the place be well lighted, the rate at which the tubercle bacilli become devitalized probably depending on the intensity of the light. The danger of spreading infection is greatest when sputum is deposited indoors, especially in dark ill-ventilated places. In these conditions tubercle bacilli may retain their vitality and power to cause the disease as long as 309 days. From decomposing sputum living tubercle bacilli could be isolated after twenty days but not after twenty-six days. Bovine tubercle bacilli were found to be more resistant to sunlight and diffused daylight than human tubercle bacilli. When exposed to electric light the bovine bacilli were found alive for seventy-four days but dead after one hundred days. It took three to four hours in direct sunlight and three to four days in diffuse daylight for a pellet of sputum to become sufficiently dried to be capable of being reduced to dust. The adoption of suitable building by-laws to ensure the entrance of sufficient light and air in all inhabited rooms in houses will do much to combat the spread of tuberculosis.

The Diagnosis of Pulmonary Tuberculosis, Louis Hamman, Am. Review of Tuberculosis, June, 1917.—Hamman states a number of very important details involved in the diagnosis of pulmonary tuberculosis. He refers to the frequent occurrence among apparently healthy

persons of slight apical changes shown by the X-ray or physical examination. He then says: "By slight apical abnormalities I refer to slight changes in the character of the percussion note, and of the breath and voice sounds, and I wish specifically to exclude the presence of râles. Apical râles have such a direct and unquestioned significance in the diagnosis of pulmonary tuberculosis that they must receive separate consideration. With certain well defined restrictions, I would place the evidence they give as second only to the finding of tubercle bacilli in sputum. By râles I mean the definite moist sounds that are heard at the end of inspiration, and commonly enough only after cough, and I do not mean the various transient clicks and so-called adventitious sounds that may simulate râles so closely and often puzzle the adept and mislead the novice. Definite moist râles at an apex when other clinical findings point strongly to the presence of pulmonary tuberculosis practically assures the diagnosis. I cannot emphasize too strongly the importance of this evidence for not infrequently physicians who make otherwise a painstaking examination neglect to have the patient cough, and thus miss the opportunity of detecting the one conclusive feature of the investigation. Unfortunately, when we possess the assurance that râles give us, nearly always the patient already has passed out of the incipient group."

In conclusion Hamman summarizes as follows: "A large number of tuberculous patients never pass through what could be called clinically an early stage and therefore we have not the opportunity to detect the disease in a favorable period. In those instances where the disease comes on more slowly early diagnosis will be favored by putting a careful clinical study of symptoms above the censorship of percussion and auscultation. Sputum examinations, the Roentgen ray and the tuberculin tests are valuable additional aids, but the information furnished by the Roentgen ray and by tuberculin must be cautiously interpreted. The great obstacle in the way of early diagnosis is the difficulty of separating tuberculous infection from tuberculous disease. If we can ever distinguish clinically that nice point where latent infection first passes into threatening activity the problem of early diagnosis will be solved. At the present time this point is blankly obscure, and we have no means of deciding definitely which doubtful cases are within safety, which have just passed without, and which are hovering about the threshold. Therefore, the early diagnosis of pulmonary tuberculosis is almost always a probability diagnosis for when absolute evidence appears the disease is seldom in an early stage. There will always be difference of opinion among clinicians about such diagnoses and about the evidence upon which they rest. The important lesson for physicians is that while he must investigate thoroughly and judge cautiously, still he must be willing to act upon reasonable probability and not allow the patient's life to be thrown away as he calmly awaits the full verification of his suspicions. The important lesson for the sociologist is that he must see the insuperable difficulties in the way of early diagnosis on a large scale and abandon his efforts to make early diagnosis an essential feature of the campaign for the eradication of tuberculosis.

H. S. G.

From the Council of Pharmacy and Chemistry

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Calco Chemical Company:
- Betanaphthol Benzoate-Calco.

The Diarsenol Company, Limited:
- Neodiarsenol Ampoules, 0.15 Gm.
- Neodiarsenol Ampoules, 0.3 Gm.
- Neodiarsenol Ampoules, 0.45 Gm.
- Neodiarsenol Ampoules, 0.6 Gm.
- Neodiarsenol Ampoules, 0.75 Gm.
- Neodiarsenol Ampoules, 0.9 Gm.

Fairchild Bros. and Foster:
- Gastron.

Hoffmann-LaRoche Chemical Works:
- Tyramine-Roche.

Maltbie Chemical Company:
- Calcreose.
- Calcreose Solution.
- Calcreose Tablets, 4 grains.

NEW AND NON-OFFICIAL REMEDIES

Neodiarsenol.—Neodiarsenol has the composition, physical and chemical properties and action, uses and dosage as given for neosalvarsan in New and Non-official Remedies, 1917. Neodiarsenol is supplied in ampules containing, respectively, 0.15, 0.3, 0.45, 0.6, 0.75 and 0.9 Gm. neodiarsenol. Neodiarsenol is accepted for New and Non-official Remedies, as the available supply of neosalvarsan seems to be insufficient to meet the demand, and this preparation conforms to the rules of the Council. Neodiarsenol is made in Canada under a license issued by the Commissioner of Patents of Canada. The Farbwerke-Hoechst holds the sale of neodiarsenol in the United States an infringement of its rights, and has stated that all violations of its rights will be prosecuted. The Diarsenol Company, Limited, Toronto, Canada (*Jour. A. M. A.*, Aug. 4, 1917, p. 383).

Gastron.—A solution of the gastric tissue juice obtained by direct extraction from the mucosa of the fresh stomach of the pig. It contains 25 per cent. by weight of glycerin, 0.25 per cent. absolute hydrochloric acid, and 1 Cc. is capable of dissolving 200 Gm. of coagulated egg albumin. Gastron is designed for use in disorders of gastric function. Fairchild Bros. and Foster, New York (*Jour. A. M. A.*, Aug., 25, 1917, p. 645).

PROPAGANDA FOR REFORM

Standardization of Serums and Vaccines.—The misunderstandings and difficulties as regards the standardization of serums and vaccines are pointed out by G. W. McCoy, Director of the U. S. Hygienic Laboratory. So far legal standards have been formulated only for diphtheria and tetanus antitoxin. A tentative standard for antityphoid vaccine has been devised. This completes the list of standardized biologic products. Though not standardizable, vaccine virus and antirabic virus are tested for potency in the process of manufacture. McCoy reviews the work which has been done in the attempt to work out and standardize other biologic products, and brings out the many difficulties which are in the way (*Jour. A. M. A.*, Aug. 4, 1917, p. 378).

Bile, A Cholagogue.—The view that bile absorbed from the alimentary tract increases the secretion of bile, and thus acts as a true cholagogue, seems to be established. The feeding of fresh bile to bile fistula dogs causes an almost constant cholagogue action. The bile of the dog, sheep and pig all have this effect, and ox bile seems to be the most active cholagogue. Of the bile constituents, glycocholic acid has a moderate cholagogue effect, but usually causes a great drop in bile pigment output in a bile fistula dog; taurocholic acid has a strong cholagogue action, but little inhibiting effect on bile pigment secretion; the bile fat has no influence on bile flow, but causes inhibition of bile pigment secretion; cholic acid has little effect on bile flow, but may decrease the bile pigment output (*Jour. A. M. A.*, Aug., 4, 1917, p. 386).

Administration of Agar.—O. H. Brown and W. O. Sweek favor the administration of agar in the form of a hot lemonade, chocolate or bouillon. For the preparation of a lemonade they direct to take 2 heaping tablespoonfuls of the agar powder, flakes or shreds; add to 1 quart of water, and boil till the agar is thoroughly liquified; sweeten and add juice of one lemon; then drink the entire quart while hot. They suggest that the quart of hot agar lemonade may be prepared in the morning, poured into a vacuum bottle, and taken leisurely during the day. They find that patients prefer to make use of orange, grapefruit, vanilla, maple or other flavoring in place of the lemon (*Jour. A. M. A.*, Aug. 11, 1917, p. 467).

Trimethol.—The Council on Pharmacy and Chemistry concludes that the claims for Trimethol are unsupported by acceptable evidence, and has declared Trimethol and the pharmaceutical preparations said to contain it—Trimethol Syrup, Trimethol Capsules and Trimethol Tablets—sold by Thos. Leeming and Co., New York, ineligible for New and Non-official Remedies. The Trimethol preparations are advertised for use in all conditions dependent on intestinal putrefaction, and some of the advertising claims give to "Trimethol" the scope of a panacea. A request for Trimethol having been refused by the manufacturers, the Council's bacteriologist examined one of the pharmaceutical preparations said to contain it. Although the preparation was found to be a germicide, the examination did not indicate that Trimethol had any remarkable potency or other properties suggesting that it possessed

special therapeutic value (*Jour. A. M. A.*, Aug. 11, 1917, p. 485).

Iodine Ointments—An examination of iodine ointments made in the A. M. A. Chemical Laboratory by L. E. Warren demonstrated that when made according to the method of the U. S. Pharmacopoeia (dissolving iodine in potassium iodide and glycerine and then incorporating with benzoinated lard), about 20 per cent. of the free iodine used combines with the ointment base. On standing for a month a further quantity of 5 per cent. goes into combination, and after this no further loss of iodine occurs. The composition of iodine ointment. U. S. P., after a month or more is approximately: free iodide, 3 per cent.; iodine combined with fat, 1 per cent.; potassium iodide, 4 per cent.; benzoinated lard (containing combined iodine), 80 per cent. The U. S. Pharmacopoeia requirement that iodine oiutment shall be freshly prepared appears to be unnecessary. It was also found that if iodine ointment is made without the addition of potassium iodide, practically all of the free iodine enters into combination with the fat (*Am. Jour. Pharm.*, Aug., 1917, p. 339).

Some Miscellaneous Nostrums.—Limestone Phosphate is devoid of limestone. It is a mixture of sodium bicarbonate and sodium acid phosphate, which when dissolved in water yields the ordinary sodium phosphate.—Parmint, according to the advertising, should be used for the treatment of catarrhal deafness, head noises, catarrh of the stomach, catarrh of the bowels, loss of smell, lung trouble, asthma, bronchitis, etc. Parmint appears to be an alcoholic solution containing sugar, glycerine, a small amount of chloroform and a mixture of volatile oils with oil of anise predominating. —Varnesis is a "rheumatism cure" which, when analyzed some time ago, was found to contain less than 1 per cent. vegetable extractives chiefly derived from emodin-yielding drugs and capsicum. Taken according to directions, its user consumes as much alcohol as he would obtain from the consumption of a half pint of raw whisky every four and one-half days.—Fruitatives is sold under a meaningless statement of composition and with claims that suggest it to be a cure for paralysis, consumption, rheumatism, etc. It is probable that Fruitatives possesses no virtues not found in aloin, belladonna and strychnine pills *Jour. A. M. A.*, Aug. 18, 1917, p. 582).

Serum Treatment of Pneumonia.—Rufus Cole reports that one third of the cases of pneumonia are due to Type I pneumococci, one third to Type II pneumococci, from 10 to 15 per cent. to Type III, and the remainder to pneumococci belonging to the fourth group. The mortality from infection with Type I and Type II are of average severity with a mortality of from 25 to 30 per cent.; those from Type III are severe and more than one-half of the patients die from this infection, while the mortality from Group IV is only about 10 to 15 per cent. Anti-pneumococcic serum is efficient only in infection from Type I, and Cole has come to the conclusion that the serum should be administered only after it has been determined that the infection is due to this type. He reports that certain commercial serums have been found inefficient or without effect against Type I infection. He also reports his experience with commercial serums which were inefficient or inert. It is expected that the U. S. Public Health Service will soon establish a method for the standardization of anti-pneumococcic serum (*Jour. A. M. A.* Aug. 18, 1917, p. 505).

Some Miscellaneous Nostrums.—Newspapers advertise Swift's Sure Specific for the treatment of "rheumatism" and "impure blood." The advertising matter sent out by its promoters recommends "S. S. S." for the self-treatment of syphilis. No information is offered in regard to the composition of "S. S. S." except that it contains 15 per cent. alcohol and the claim that it is "made from purely vegetable ingredients."—Kaufmann's Sulphur Bitters are claimed to contain sulphur, gentian, wild cherry, aloes, eupatorium, "Tanacetum," balmony, podophyllum, "Senna Indica," calamus. It was sold as a remedy for scrofula, catarrh, salt rheum, rheumatism, etc., but the government declared these curative claims false and fraudulent (*Jour. A. M. A.*, Aug. 25, 1917, p. 663).

Treatment with Vaccines.—The conditions—self-limited infections and chronic infectious processes—in which vaccine treatment has been employed make it exceedingly difficult to determine if vaccines are of value. As pointed out by J. P. Leake of the U. S. Public Health

Service, whenever the use of vaccines in a certain disease has been carefully controlled, its use has been found of little value. This is true of whooping cough, typhoid fever and gonorrheal vulvovaginitis and probably in pyorrhea alveolaris. As for the strikingly favorable results in individual instances which are reported by vaccine enthusiasts and repeated in advertisements, these may all be matched by equally brilliant results in cases not treated with vaccines (*Jour. A. M. A.*, Aug. 25, 1917, p. 648).

Nasopharyngeal Disinfection by Hypochlorites.— While the practical sterilization of infected wounds by means of hypochlorites has been effected, the sterilization of the nose and throat is far more difficult, especially in the case of diphtheria and meningogoccus carriers. Encouraging results from the use of a hypochlorite substitute, dichloramine-T, have been reported, but these require confirmation (*Jour. A. M. A.*, Aug. 25, 1917, p. 651).

News Notes

Lieut. G. X. Roberts, of Chester, has left to report at Fort Harrison, Ind., for immediate service in the Medical Reserve Corps.

Dr. Thomas Rice, of Brattleboro, who was commissioned recently a first lieutenant in the Medical Reserve Corps, has gone to Fort Harrison, Ind.

Dr. George Latour and Dr. Walter F. McKenzie, of Burlington, have gone to Fort Benjamin Harrison, Ind., to take up their duties as surgeons in the Medical Reserve Corps, in which they recently enlisted. They have received the commissions of first lieutenant.

Dr. Rollin D. Worden of Montgomery Center, formerly of Rutland, has received his commission as first lieutenant in the medical department of the United States army and expects orders to leave soon for some camp. Mrs. Worden, who was formerly Miss Grace A. Pelsue, will return to Rutland and remain with her mother, Mrs. Susie Pelsue, during Dr. Worden's absence. Dr. Worden is a U. V. M. graduate and he and Mrs. Worden have lived in Montgomery Center since their marriage two years ago.

Dr. W. W. Townsend of Rutland has gone to Wrightstown, N. J., to take up his work at Camp Dix as captain in the medical department of the United States Army. Dr. Townsend is to be chief of staff in genito-urinary diseases in a cantonment which will accommodate some 60,000 men.

Dr. William Stickney of Rutland has gone to Fort Upton, Yaphank, L. I., where he is to be chief of surgical service in the camp hospital. Camp Upton is a National Army cantonment at which the Second division which comprises the drafted men from the Metropolitan district of New York will be mobilized.

Dr. and Mrs. L. C. Holcombe have gone to Louisville, Kentucky, to attend the meeting of the Sovereign Grand Lodge I. O. O. F., Dr. Holcombe being a representative from Vermont and also chairman of the committee on Odd Fellows' Homes of the world. Before returning they will visit Dr. Holcombe's sister at Thorntown, Ind., and Mrs. Holcombe's uncle in Chicago. They are planning to be at home about Sept. 28th.

THE NEW ENGLAND TUBERCULOSIS CONFERENCE

Of the National Association for the Study and Prevention of Tuberculosis will be held in Rutland at the Shrine theatre, October 4 and 5, 1917. Dr. Edward O. Otis of Boston, presiding.

The purposes of the conference are to discuss matters of special interest to the New England States, to bring the facilities and aid of the National Association to bear more clearly on local problems and to provide a place of meeting and discussion for those who cannot attend the meetings of National Associations.

The aim of those in charge has been to produce a WAR PROGRAM.

Thursday morning 9:45 to 12:00 there will be a General Medical Session with papers on the use of X-Ray, Significance of Rales, the Value of Physical Signs, and a most timely subject, What Constitutes a Diagnosis of Tuberculosis Sufficient for Rejection from the Army?

Thursday noon a "Dutch lunch," with "silent speeches."

Thursday afternoon 2:30 to 4:00 a symposium on Social and Statistical Aspects of Tuberculosis as a war Problem.

Thursday afternoon Discussion by Nurses Health Officers and State and Local Secretaries.

Thursday evening at 6 o'clock at the Bardwell a "Red Cross Seal Dinner" will be served.

Thursday evening at 8:15. Public mass meeting, "Tuberculosis in a Nation at War". Motion Pictures and addresses on Tuberculosis in the Canadian Army, and Eradicating Tuberculosis from the United States Army.

Friday morning a general meeting from 9:00 to 11:00 and from 11:00 to 12:00 further discussion.

Friday noon, "Framingham Luncheon", at which Dr. D. B. Armstrong of Framingham and others will speak.

Friday afternoon, 2:30 to 5:30 a Round-table symposium on "War Programs for Local Work".

This program is unusually complete and Vermont men interested in tuberculosis (and every man or women in the state is interested) should make a brave effort to attend.

WORK WITH HOOVER AND SERVE OAT FOODS

"Wheatless Meal" a Patriotic Duty—Oats High in Energy Value and Low in Price

To sustain our Allies and our own army abroad it is necessary for this country to ship to Europe 200,000,000 bushels of wheat the coming year, in place of a normal shipment of 80,000,000 bushels. That is why Herbert Hoover says we must eliminate waste of bread and must have one "wheatless meal" each day. It is impossible to view this matter as other than a patriotic duty.

Yet the domestic housewife must look to the matter of serving nourishing meals.

An excellent food to consider as a flavory, nutritious, and easily prepared substitute for bread is oats, either in the form of oatmeal or oatmeal biscuits. As a food that imparts vim, energy, and endurance, oats have long been recognized as supreme. And in the form in which they can in these days be procured for table use, they excel nearly every other grain food in flavor and ease of preparation.

Again, oats have advanced little in price, whereas nearly all other foods have soared. Prices on Quaker Oats—the product of the Quaker Oats Company of Chicago—for example, have advanced on the smaller package only from 10 cents to 12 cents, and on the large, only from 25 cents to 30 cents. Most other goods for the same nutrition cost from twice to ten times as much.

Even so simple a diet as bread and milk, for the same nutrition, today costs twice as much as oatmeal. The average mixed diet costs four times as much.

It has been estimated by food experts that oats, to the extent that they are used in place of other foods, on the table, represent a lower cost by 75 per cent, on the average, than what they take the place of.

A few specific comparisons may be interesting to the reader:

Per unit of nutrition, bacon and eggs costs five times as much as oatmeal, steak and potatoes cost five times as much, chicken costs six times as much, the average mixed diet four times as much.

In view of the critical food situation and the comparatively low cost of this superior food, the housewife, it appears, would do well to serve oats more often.

UNITED SLIP-SOCKET LIMBS

PATENTED APRIL 6th, 1915

The Most Highly Improved and Scientifically Constructed Artificial Limbs on the Market

Warranted not to chafe, bind, draw or overheat stump. Representative who wears limb will call by request at patient's home to show samples any time, anywhere in New England at no expense. Reasonable prices; courteous, efficient service; liberal guarantee.

Send for circulars. We manufacture more than thirty styles of appliances

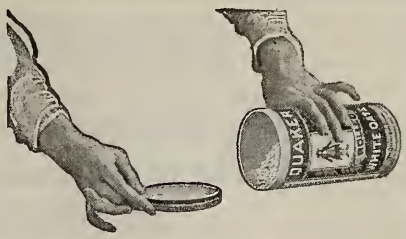
The United Limb & Brace Co., Inc.

Largest Manufacturers Artificial Limbs and Orthopedic Appliances in New England

61 Hanover St., BOSTON, MASS.

TEL. HAYMARKET 1587

United States Government Bonded Manufacturer



Why Oats Differ

Oat flakes differ because oat grains differ. Some are large and plump and flavory. Some are small, starved and insipid.

In Quaker Oats we use the queen grains only. The rest are all sifted out. A bushel of choice oats yields but ten pounds of Quaker Oats.

That is why Quaker Oats has won millions of users. Why it holds leading place the world over.

No man has ever found a way to make an oat food better.

Quaker Oats

12c and 30c per package in United States and Canada, except in Far West and South where high freights may prohibit.

The Quaker Oats Company

Chicago

(1639)

For Your Patient—
At the Seaside: Among the Mountains:
In Vacation Camp

Liquid Petrolatum Squibb

Heavy (Californian)

The heaviest and most viscous Mineral Oil. *Specially refined for internal use.* Essentially different from and superior to all other Mineral Oils, whether of American or Russian origin.

Will prevent the bowel troubles consequent upon change of food, water and environment.

Does not deplete or stimulate the system—is not absorbed—does not disturb digestion—prevents constipation and intestinal toxæmia.

Colorless, odorless, tasteless.

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Vermont Medicine

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Original Papers

SOME OBSERVATIONS ON DIAGNOSIS

President's Annual Address,

Delivered at the 104th Annual Meeting, Barre, 1917.

CLARENCE HENRY BEECHER, M.D.
Burlington, Vt.

That errors in diagnosis do occur we are all only too well aware. That the percentage of error is too high most of us acknowledge. The hope that I may start a discussion of ways in which that percentage may be lowered, is the inspiration for this address.

We must keep in mind that there are two well-defined parts to a diagnosis, (1) the *data* (not necessarily facts), and (2) the *opinion,* or *conclusion,* based on or drawn from the data.

The more mistakes in diagnosis, of myself and others, that I see, the more certain I am that the great bulk of them is due to unreliable data, it being either *imperfect,* from faulty interpretation of signs found; or, what is more likely, *insufficient data* due to the lack of method in obtaining the history, making the physical examination or doing the laboratory work; or what is still worse, and I regret to say still more common, deficient pretty much altogether, there being no history, physical signs or laboratory reports as a basis for the findings. In other words the bulk of the mistakes in diagnosis are due to our failure to use the means at our command in getting the data in the case, rather than to any lack of ability to interpret properly the significance of the data once it is obtained. We fail because we don't do the things which we know perfectly well we should do. Jenner long ago made the wise observation: "More mistakes are made by not looking than not knowing."

Methods of Obtaining Data

It is of course quite impossible to go into a discussion here of all the details of securing the data, and I shall touch only some *few* of the important points.

History.—Taking the history of a case is often a very tedious affair, but the difficulty in securing it is not excuse enough for the way it is slighted. There is great need of a routine method of *some sort* by which all the points are covered, so that you will at least know when you have exhausted the possibilities in a case.

The social and family history are here passed with the mere mention of their utility in a complete record.

In the personal medical history the past health and habits should come in for searching questioning.

The history of the present illness is of utmost importance, but it is often

hard to pin a patient down to definite answers to the two most important questions regarding the present attack. These are the *date and manner of onset* and the *chief complaints.* If you can get accurate answers to the questions: (1) How long have you been sick? or How long since you were well? and (2) From what do you seek relief, or What is bothering you? you have gone a long way especially to a determination of (1) the chronicity of the illness and (2) the system or organ involved.

Questioning about the subjective phenomena—the symptoms on the part of the systems—respiratory, circulation, etc., should be grouped so far as is possible, and be begun with the system of which chief complaint is made.

Physical Examination

The most important part of Physical Examination still is, *that it be done.* Too many cases are undiagnosed from lack of the most elementary physical examination. *Inspection* cannot be made through clothing or in the dark.

Palpation still implies contact.

Percussion and *auscultation* do not require a musical education, though it is advantageous.

That there may be difference of opinion as to the things seen, felt and heard is true, but there are further checks on all of these. The gradual addition of instruments of precision to the physical examination of patients has given a degree of scientific accuracy to what was almost wholly an art—I refer to the stethoscope, blood pressure apparatus, X-ray, etc. Their addition has made the aid of specialists along various lines necessary to get *all* the data in the physical examination.

Laboratory examinations are the *scientific* part of diagnosis as opposed to the *art* of history taking.

That some routine in laboratory examinations is useful is evident from the general rule in hospitals of a urinalysis, blood count, etc., on all cases admitted.

In spite of the availability and dependability of the laboratory examinations they are still too little used as a diagnostic aid. While some of the laboratory findings are in themselves diagnostic, the great bulk of them still need correlation with the clinical findings.

It is too often urged that all this history taking, physical examination and laboratory findings take time, and that the diagnosis with refinements is often too late. There is a happy medium, however, between an *early, hasty* and too often *incorrect* diagnosis and one made *post-mortem.*

More and more it is becoming evident that in the cases which need study and take time for observation, advantage should be taken of the places prepared for this work—the hospitals. The time has passed when we should try to make a diagnosis and prognosis, especially in the chronic cases, with a few minutes' observation and examination. More and more it is becoming evident that team work—the combined skill of various observers (specialists) —is safest and surest.

The relative value of the various factors in the record of a case is hard to estimate. Any one of the factors, history, physical signs or laboratory examinations, may be THE determining one in a given case. In other cases all three factors are essential to a diagnosis. They are rarely at variance, or if they do seem to be contradictory, it

is usually because of faulty determination of or interpretation of the facts, and a reasonable explanation will be found.

If, as only very occasionally happens, there is a real conflict between clinical findings and laboratory examination the thoroughness of the examiners is as apt to settle the conflict as anything. If both are dependable, then most weight is still to be given to the clinical findings.

There is more and more tendency for laboratory workers to recognize the fact that their examinations are after all only a part (as a rule) of the whole.

There are some ways in which we could improve our ability as diagnosticians which are now too little used. I refer especially to the study of the pathology of our cases:

(1) The presence of the diagnostician (family physician or specialist) at the operating table. The family physician should in all cases where possible, be present at all operations on his patients and have full knowledge of the after-care, if impossible for him to give personal attention to it.

2) The securing of post-mortems on the fatal cases. The number of post-mortems now secured is much greater than formerly—but should be greater still. There are State laws which make it necessary for the signer of the death certificate to know the cause of death—a recent one providing for the securing of an autopsy if the cause is not known. If consent can be obtained, it is better. One of *the best* of arguments to secure post-mortems is a selfish one—the need of the rest of the family to know the cause of death.

Finally, our ability as diagnosticians would be enhanced if we had the courage to charge enough for our services to make us feel we could take sufficient time.

WHY NOT IN VERMONT.

To further enhance the rating of Portland, Oregon, the Board of Health is making use of the card system for informing patrons of the cleanliness of the various shops they patronize.

A store handling food products of any kind is required to display an "A" card if its sanitation averages 90 per cent or more, as governed by the rules of the Health Board. "B" indicates that the methods of the shop are only up to 80 per cent, and "C" covers anything under 80 per cent.

The card must be displayed in such a place that every patron of the shop may see it, and frequent inspections by offices of the city cause this requirements to be obeyed.

Portland is very jealous of her rating as the second healthiest city in the United States, and is doing everything within reason to raise the rating. It is believed that her temperate zone climate and purest of pure water, will be materially aided in giving Portland the boost she craves.

A very noticeable improvement in all shops has been noticed since they have been required to advertise the degree of sanitation they maintain. Each merchant seems to be now anxious to get an "A" rating. Some merchants are advertising the fact that their shops rate approximately 100 per cent clean.

Vermont Medicine

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Editorials

THE GOOD DOLLAR

In the August number of Vermont Medicine, after resuming briefly the various systems of what has been called irregular medicine by the greater portion of the medical profession and noting the curious similarity that characterizes their results and indeed invites a comparison with the results of legitimate medicine itself, we forbore to answer the question there propounded as to what this peculiar force is which produces such uniform results from such apparently different causes. We agreed that some common factor existed in them all, but we did not state clearly what that common factor was. Nor is it possible to state it clearly with our present knowledge. The utmost we can expect to do is to indicate rather mistily what the problem is and to hope that the answer may at length be definitely given.

Matthew Arnold says in one of his essays that medical science has never as yet studied at all closely the connection that without doubt exists between moral fault and disease. During the fifty years that have gone by since he wrote that criticism, some progress has been made in that direction, and we know enough of such a connection in respect to some medical questions to have altered our outlook on drunkenness and other habit-formations, on the so-called endocrine secretions, on occupation neuroses and on a good many other factors in the causation of disease. But as to the *cure* of disease our actual knowledge is as yet very slight. Medicine is of course not an occult science—any physician would naturally and rightly resent such a statement as that—but neither is it an exact science. If a science at all it must be classed among the experimental sciences. For what do we know for instance about abscess-formation? What general rushes up his army of leucocytes to expel an infected intruder? What war board elaborates the one specific antitoxin necessary to counteract the toxin that has invaded the entire system? We

know more today than Bilroth ever knew about the repair of fractures of bones, but what engineer superintends the work of histological repair? We have acquired a certain experimental knowledge of the character of fevers, but who regulates the rheostat that in health maintains the body temperature at 98.4° alike in the cold of February and in the heat of August? The remark has been often made in reference to the practitioners of the occult sciences, that they knew nothing whatever of the reason why they got what they also called "results"; that they had learned by experience that if they assumed a certain attitude of mental expectancy, certain consequences followed. What more does the most skillful and scholarly surgeon know about his own work, except that his results are more constant and that of course the spirit in which he works is a much nobler one. But as to his exact knowledge of the origin or character of repair-processes—it is safe to say that he knows nothing.

Our predecessors in medicine gave a name to this mysterious force which of course they recognized as well as we do today. They called it the *vis medicatrix Naturae.* Ambrose Paré recognized it reverently when he inscribed over the door of his operating room, "I dress them and God heals them." That was as far as Paré got in the sixteenth century. Have we got much farther in the twentieth? That door is still locked, nor have we as yet discovered the key.

In 1665, Samuel Pepys cut off a hare's foot and carried it in his pocket for his rheumatism. Some time later he met Mr. Batton in Westminster Hall, "who showed me my mistake that my hare's foot hath not the joynt to it; and assures me he never had his colique since he carried it about him; and it is a strange thing how fancy works, for I no sooner handled his foot, but I became very well, and so continue." It is easier to ridicule such a yarn from such a man as Pepys than to explain it, but when it is backed by the great array of similar instances, perhaps it begins to demand an explanation after all. Some time ago we received the prospectus of a book entitled, "Cell-Intelligence the Cause of Evolution." Perhaps foolishly we did not get it; partly because one naturally shrinks from things that promise too much or too vaguely, partly because the author sent in his prospectus a likeness of himself, which was evidently that of an unsuccessful sewing-machine agent, but principally because it is inconceivable that any intelligence can reside in a cell. For intelligence is that property that enables us to see an end and the means that lead to it, and no cell can possess the ideal of intellectual and moral manhood. But that there is an Intelligence behind the cell we of course unhesitatingly believe. Have we any means of discovering—not indeed the Intelligence itself—but the way in which It works?

Much has been written of the "subconscious mind," and it is of benefit to have a name even for processes that we do not understand, and subliminal consciousness will serve perhaps until we can put a better name to our ignorance, but in respect of the processes of healing there is already a word denoting a similar condition, a word that has been

long used for a condition that is not at all understood.

The hunting wasp, before it is killed by the frosts of autumn, provides for the continuance of its kind by digging a deep hole in a sand bank and depositing an egg in it. But before laying the egg, it provides the necessary food by carrying three grubs, one at a time, and laying them in the further end of the hole. The egg is deposited on one of these grubs and the opening of the hole is then sealed up. There is only one kind of grub that is used and the grubs must be paralyzed and yet remain alive until the egg has consumed them. For a dead grub would decay and a live grub would move and so dislodge the egg. There is a problem that would puzzle an entomologist, but the wasp solves it without a thought. It thrusts its sting into the first, third and seventh spaces between the segments of the grub and the grub remains alive but motionless. These are the only points where the grub can be paralyzed. We call it instinct, for no reason could resolve the problem, no instruction is possible, and yet no attempt fails. It is the same impulse that leads the chick to chip the shell and leads the duckling from the shell to the water. Consider then the resemblance between what we call instinct in the wasp, untaught and unerring, and the power that in the infectious diseases elaborates without making a mistake the especial antitoxin that is required to overcome the poison of measles and scarlet fever. Here also there is no error. Diphtheria antitoxin is not furnished by the body when the invader is scarlet fever, but each infection requires a different antitoxin and gets it. In this process we have no controlling part, nor even a conscious one. Reason often errs; this power, whatever we may call it, never. Its action is immediate and infallible. Long before one is conscious of being ill, this protective force is busy in his behalf. If the defence prevails, the patient recovers; if it fails, the patient dies; but in no instance is the wrong defence offered. The particular champion presents himself whose services are required. *Vis medicatrix Naturae.* No side-chain theory can quite explain *that.* Nor do we pretend to that knowledge.

And yet, without understanding the character or origin of this mysterious power, the profession of medicine has learned, from the experience of thirty or forty centuries, to influence its action. We hope we may not be misunderstood if we say that such *is* the practice of medicine. That is what therapeutics in its broad sense is—the care of the sick. To narrate the achievements of therapeutics is to give a history of medicine, to which task we at present feel ourselves in no way called.

With this immense accumulation of experimental knowledge, which constitutes the body of medicine, the various cults of irregular healing have nothing whatever to do and care nothing whatever for. They avail themselves of a little by-path which medicine as a profession has somewhat neglected, because it did not seem to possess the attraction of scientific interest which the broad highway held out to it. Perhaps it would be better to say not that they have neglected it, but that they have not consciously developed it. So, being unguarded, a nondescript assortment of busy pretenders has crowded the by-path, vociferating all kinds of prepos-

terous claims, and has become a menace to society. And this is partly our own fault. The number of the quacks is legion, and the name of the by-path is Suggestion. This is the common factor of them all. Their ignorance is quite complete, their pretensions are without limit, their methods are usually vulgar, their aims are always mercenary, their vaunted successes are ephemeral, but at bottom they are based upon the one principle of suggestion. That is their "good dollar."

104TH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY.

The one hundred and fourth Annual Meeting of the Vermont State Medical Society was held at Barre October 11 and 12, Dr. Clarence H. Beecher presiding. The program was carried out practically as scheduled and as printed in the September VERMONT MEDICINE. The attendance was excellent considering the unfavorable motoring weather and the difficulties of reaching Barre by rail for those living in the east side of the state.

The Barre physicians and business men proved themselves past masters of the art of entertaining and everyone left Barre with the firm belief that he had been heartily welcomed and royally entertained.

The whole program reflected the all-invading war spirit. Scarcely a speaker failed to recognize the fact that the war is causing epoch making advances in our theories and practices.

No one was received with greater enthusiasm than was Lieut. Col. A. Mackenzie Forbes of the Medical Corps of the Canadian Army who has just returned to Montreal from sixteen months' service in France. Col. Forbes was too modest to rehearse his own experiences publicly, although from what he related in conversation his service has not been lacking in serious adventure.

Maj. Henry D. Jump, M. R. C., was at the meeting as the representative of the Committee on State Activities of the Medical Section of the Council of National Defense.

He impressed upon his hearers the fact that the Great War is not yet past history, that we have just begun to make the sacrifices necessary for winning and that thousands of medical men had given up remunerative practices and entered the service at great financial loss; but he showed that thousands more are needed and needed now. Many replied in answer to past appeals that they were willing to go when their country needed them. Major Jump showed that that time has arrived and that they are sorely needed just now.

After the adjournment of the State Meeting Major Jump met the members of the State Committee of National Defense, Medical Section, and drafted plans for a series of meetings in the various centers of the State after the plan of those scheduled for last May. These Spring meetings had to be canceled at the last moment because the Surgeon General was not able to authorize pay and travel for the medical officers who were selected to cover the state. This is now entirely possible and plans will soon be announced by the State Committee.

This issue of VERMONT MEDICINE goes to press before the Transactions of the 104th Annual Meeting are available and they will be published next month.

J. M. H.

Honor Roll of Vermont Physicians in the Service of their Country.

Majors

Thos. J. Hogan, Camp Bartlett
Edward A. Tobin, Plattsburg

Captains

Frederick Ellsworth Clark, Fort Ethan Allen
Henry Chester Jackson
George Guerin Marshall, ordered to Panama
William Hayes Mitchell, Fort Ethan Allen.
William Stickney, Chief Surgical Section, Camp Upton
Herbert W. Taylor, In France
William Warren Townsend, Chief G. U. Section, Camp Dix

First Lieutenants

Fred Noble Aldrich
Frank C. Angell
George Lucien Bates
Robert O. Blood
Joseph C. Breitling
Arthur Washington Burnham
John Marie Caisse
George E. Chamberlain
Eugene Joseph Cray
Harry Leslie Frost
Victor Patrick Genge
Stewart Louis Goodrich
Frank Leslie Gilbert
Albert Joseph Greenwood
Herbert Bill Hanson
Horatio Nelson Jackson
Linwood Major Kelley
Arthur Lee Larner
George Eugene Latour
Chester Sylvester Leach
Charles Emerson Libbey
James Lyman Lovejoy
Robert Leland Maynard
Seth H. Martin
Walter Franklin McKenzie
JOHN C. MURPHY, died in service
Thomas Rice
George Roberts
George Albert Russell
Daniel Augustus Shea
Chester Lewis Smart
Ray Ernest Smith, in France
Henry Eugene St.Antoine
John David Thomas
Ray Brown Thomas
Henry Latimer Tillotson
Vance William Waterman
Henry Reuben Weston
William Henry White
Rollin Duane Worden
Joseph Arthur Work

U. S. Navy

Edward A. Crofutt
Charles Edward Morse

With this number we inaugurate a new Department which we hope every reader will help up keep up to date. We are publishing the names of those who have accepted medical commissions in the Army and Navy. As fast as the information is received from reliable sources, rank and location will be added. The italics signify, with our expeditionary forces in Europe; capitals, died in service.

The War

YOUNG PHYSICIANS, YOUR OPPORTUNITY

Never again in the history of medicine in this country will such an opportunity be afforded you to serve your country as well as the best interest of yourself.

The experience which you will gain by being commissioned in the Medical Reserve Corps and seeing active service, will be worth more to you in a professional way than you could acquire in years of practice in civil life.

The pay granted to officers in the Medical Reserve Corps is sufficient not only to cover all needs, but enable you to lay aside a comfortable balance, and while the older men in the profession have come forward, it is to the younger men that the greatest benefits accrue.

The experience will prove broadening both professionally and mentally. With this experience and the thought that you have served your country in time of need, you will return to civil life and receive the further benefits from your patients, friends and acquaintances, always accorded to one who has been so prominently individualized as this opportunity will afford you.

THE DOCTOR'S CONTRIBUTION

In this world's war, your service is absolutely essential.

The medical officer bears the same relative position in war as in peace in that he is a conservator of health and life.

Through his skill, thousands of men receiving slight casualties, are returned to the fighting force, thus conserving the physical strength of the army.

In Base, Field and Evacuation hospitals, doctors are as essential as in civil institutions, where the sick and injured are cared for.

As regimental surgeons and on transports and in the Sanitary Corps, must the Government have doctors if we are to terminate this war successfully.

Your contribution to your country at this critical time is *your service* which you can give for the period of the war as an officer in the Medical Reserve Corps. That your country needs you, is best answered in that she is calling you *now*.

The fighting forces are constantly expanding and such expansion calls for additional doctors and even with the troops now in training and under mobilization (about two million) the Surgeon-General has not enough doctors to fill the requirements.

Secure an application blank at once; fill it out and present it to your nearest Examining Board. Do not live to regret that you did not have a part in your country's great struggle for democracy which means *Liberty*.

THE PUBLIC HEALTH

The percentage of young men rejected as unfit for military service because of physical defects has been considerably larger among men from rural districts than among city residents, according to a statement issued yesterday by Dr. J. A. Nydegger, in charge of the United States Public Health Service in Baltimore.

"As soon as the Boer war was over," Dr. Nydegger said, the British Gov-

ernment proceeded to introduce throughout the United Kingdom a well-devised medical inspection of schools, compulsory athletics and mild military training to correct as far as human endeavor was able, the physical defectives. Other European countries arrived at the realization of this defect in their school systems at an even earlier date, and provided systems of athletic training and medical inspection in their schools, beginning with kindergartens.

"While in this country most of the city schools have adopted medical inspection, most of the rural institutions have none. In this lies the fact that the unsanitary conditions in these places produce 75 per cent. of the physical defects which are today barring men from the United States forces. Defective eyes, ears, teeth and throats among the youth of rural communities have been found to be due largely to conditions in the rural schools. Improper desks and seats also have caused much spinal curvature, leading to other faulty conditions. These conditions ought to be corrected at once, and school children all over the country should be examined because defects arising at their period of life as a rule cannot be overcome later.

"The introduction of a single innovation or procedure is not going to correct all of the physical defects existing in our young men. It must be a gradual process, beginning with an efficient universal medical inspection in our public schools at the age of 6 years, coupled with a well-devised system of physical training and mild military exercises to harden young men for the more strenuous universal military training which is to follow after school days are over.

"This is a great national problem, and the Federal Government should handle it, or at least co-operate with the States to the extent of seeing that defects are corrected, with the view of remedying conditions, if not for the present generation of young men, for the generations of the future."

THE INCIDENCE OF TUBERCULOSIS AMONG SOLDIERS

When Major Eduard Rist of the Medical Corps of the French Army, assigned by the French government to the Surgeon-General's Office, announced at the meeting of the American Association of Military Surgeons held at Fort Benjamin Harrison this week that the facts concerning tuberculosis in France, and especially in the French army, do not agree with the exaggerated statements published in this country, he settled conclusively a point which has agitated civilian and medical tuberculosis authorities in this country since the beginning of the war. Major Rist stated that out of 1,000 men sent back to a base hospital as suffering with pulmonary tuberculosis, all but 193 were returned to the front with the diagnosis not confirmed. He said also that the chief cause of the too numerous diagnoses of tuberculosis was the fact that civilian physicians called to army life are too much inclined to make the diagnosis of tuberculosis on very slight evidence. In making a differential diagnosis the mistakes were not made through the difficulty of differentiating pulmonary tuberculosis from unusual maladies, such as abscess of the lung, or pulmonary tumor, but far

more frequently through the confusion of the diagnosis with minor complaints such as infections in the upper air passages, acute rhinitis, pharyngitis and bronchial inflammation. France, in need of every soldier, found it necessary to comb with a fine comb in order that no man be eliminated from the army through a mistaken diagnosis of this sort. The United States, with a supply of men far above the number that can be successfully trained and transported for military service, need not, perhaps, be so careful in eliminating men from military service because of the suspicion of this disease. In any event, making a diagnosis of tuberculosis and eliminating a man from military service for this cause wrongfully is not doing justice either to him or to the nation.—*Journal American Medical Association,* Oct. 13, 1917.

MEDICAL SERVICE OF THE FUTURE

Otto P. Geier, Cincinnati (*Journal A. M. A.*, Sept. 29, 1917), says the social problems are changing and the medical profession must follow. The question whether it is so doing is naturally raised and he takes up three of the well defined modern tendencies to discuss. These are, the needs of higher standards of private practice, by refinement in diagnosis and treatment through group practice; 2. The needs of higher standards of public health (emphasizing school dispensaries); 3. The development of industrial medicine —a new specialty. A scientific attainment will come with meeting the first of these and the application of science to the ultimate social good will proceed largely through the other two. With this introduction he discusses questions of social insurance and criticises the rather hasty legislation at present proposed. Individual success and happiness judged by the social needs is dependent on health; the cost of disease is a very serious matter. Physicians do not fully comprehend, he says, their direct relation to sociology and their sphere of usefulness is hindered by the pushing forward of social workers who have only an imperfect comprehension of the medical side of the subject. The physician should be a leader in the community in all problems of disease, insanity, crime, delinquency and dependency and he discusses what plan of social improvement should be taken up by the medical profession. No social progress in matters of health can be made which is not preceded by progress in medicine, and his general conclusions are given as follows: "1. Private health practice and public health practice must be improved. 2. The knowledge of the prevention of disease, its diagnosis, and cure must be advanced. 3. Higher personal and ethical standards must prevail. 4. This better day will be hastened by a more general adoption of the group practice plan. 5. More men must fit themselves for the distinct specialty of industrial medicine. 6. The supervision of school children and children of school age should be extended through the establishment of school dispensaries. 7. These methods, together will constitute an adequate medical service, and be a forward step in the ultimate socialization of medicine."

RED TAPE AND EFFICIENCY

As many physicians will enter government service, let us say a few words about the above topics. Any of us could take a position as president or manager or superintendent of a large business. On the first day of our new duties, we would discover a great many unnecessary, complicated and time and money-consuming methods. The elimination of these methods and the substitution of simple and practical ones would at once occur to us. But, at the end of a few months, the business would probably be in the same condition as a patient with pericarditis or appendiccal abscess if treated by the person whose place we took. Red tape means the business methods of government. It has been developed very gradually by men of long experience, mainly of ability and conscientiously devoted to their profession. It is ultimately intended to protect the stockholders who are the people. An army surgeon who, as a young man, was a clerk in an administrative department of a railroad, declares that the business forms and system of the Surgeon-General's office and of the entire medical corps are far simpler and far more efficient than those of any railroad in the country.

As to efficiency, remember that it depends largely on learning the real nature of a new line of work. Don't be like the type-writer manufacturers who advertise a medical keyboard on the strength of drachm, ounce and scruple signs. On the other hand, don't be too critical if you encounter survivals of the past encumbering 20th century methods. Even the scruple has not entirely disappeared from medical writings.—*Buffalo Medical Journal.*

THE MEDICAL EXAMINATION OF THE NATIONAL ARMY

The announcement has just been made from Provost-Marshal General Crowder's office in Washington that in examining the remainder of the 10,000,000 men subject to draft and service in the National Army, information will be sought first as to the liability of each man for service, and the physical examination will follow only when the man is not exempt for some cause under the law. This is so obviously the correct order of the steps in the selection of men for service that it is surprising that this method was not adopted in the calling of the first 700,000 men.—*Journal American Medical Association,* Oct 13, 1917.

A RESUME OF THINGS CONCERNING THE MEDICAL OFFICERS' TRAINING CAMP AT FORT BENJAMIN HARRISON

By Samuel E. Earp, M.D.,
Indianapolis

Editor *Indianapolis Medical Journal*

At the gates of Indianapolis is situated Fort Benjamin Harrison, one of the training camps for officers of the United States Army. There is a post hospital of one hundred beds, and all else that goes with such an institution, including accessory camps for the care of those affected with contagious diseases. There is an infirmary sick call at 4 p. m. each day; those sick are transferred to the hospital. The barracks will accommodate nearly a thousand medical officers and is lighted by

electricity. The mess is unusually good, but in this, like some other things a few cents extra will take to the extreme, which is unnecessary. Lectures and quizzes are conducted under trees, and blackboard exercises are in evidence, and thus the instructors find out what has been accomplised during study and drill hours.

Recreation consists of all kinds of athletic and other games. Entertainments are of the best. The governors of several states have delivered lectures, and Senator James Watson and a number of others of equal rank in Washington, have done their bit. None excel instruction, advice, and words of truth that are given by Brigadier-General Edwin F. Glenn. Enthusiasm is at high pitch, co-operation is of the best and discipline is of a superior quality.

At the post there are now 13,000 men. Through the courtesy of Major Percy M. Ashburn, I obtained information which is authentic. The morning that I visited the post, July 23, in the interest of the *Buffalo Medical Journal,* the written morning report shown me gave the number of men in the medical training camp as 2,842. There are four field hospitals of 80 men, four ambulance companies of 150 men, one evacuation hospital of 180 men, 20 regimental attachments and 33 men in sanitary squad. In addition there is one Indiana Field Hospital of the Indiana National Guard, one ambulance company of the Indiana National Guard, and 400 enlisted men from different states.

The brain and body work of the student officers commences at 7 a. m. and continues until 5 p. m. The work is divided into three parts: 1st month, experience of enlisted men and learning duties in medical deportment; 2nd month, officers' duties, and 3rd month includes both 1st and 2nd.

The best men adapted to particular service are recommended for advancement by Major Ashburn, and the appointment is made at Washington.

There is a parade and review each day but the student medical officers have had but one review, and that was when Governor Cox of Ohio visited the post.

Those who have left the camp had some physical disability and none for inefficiency. This is surely creditable to a superlative degree. In line of duty 100 have gone elsewhere, 75 abroad (and we know what that means), and 35 assigned to duty as instructors at other camps. These facts until now were unpublished.

Incidentally, it might be said that the student medical officers have no gun practice but they do have hikes of six miles a day, two or three hours of drill, and special drill in ambulance duties and other medical work. The men get the best food and water. Two new filter-beds were put in this week and there are deep wells that reach below the blue glacial clay, which means the second stream of water. There are no 30-feet surface wells.

Saloons and houses of prostitution are not permitted nearer than five miles from the camp. There is one exception, if a saloon man had his license before the adoption of this rule if would not exclude him if the saloon was located one-half mile from the post, but no liquor is allowed at the post, no lewd women, and soldiers cannot be given

liquor when in uniform during a visit to the city when off duty. Anyone giving liquor to soldiers is subject to arrest and imprisonment upon conviction.

There have been no cases of alcoholism at the post and at this writing no known case of venereal disease. This undoubtedly is a creditable record.

A word about court-martial. A captain of the Spanish-American War, Dr. Eugene Buehler, and business manager of the *Indianapolis Medical Journal,* and who accompanied me to the post, said: "We had a case of court-martial almost every day." Major Ashburn, who heard the remark, replied: "This post opened June 1st and we have had two trials only, both for absence without permission."

Many of the student officers are college students or graduates, and those who compose this camp are of the highest quality and the best character.

The officers of the medical taining camp are: Major Percy M. Ashburn, chief officer; Major J. R. Shook, Major G. H. Scott and Majors Morse and Powell. Those of the rank of captain are: Captains Snyder, MacCormack, Druly, Bastian, Creighton and Turnbull.

The men of the camp co-operate perfectly with these officers and they are held in the highest esteem. Fort Benjamin Harrison is a great camp for good and those who go forth from it will be an integral part in the successful termination of the world's war.—*Buffalo Medical Journal,* Sept., 1917.

ABSTRACT FROM LETTER BY BORDEN VEEDER TO THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

One morning Fischel and I saw a number of cases of Bilharzia infection among some Egyptians. That same morning we attended the "sick call" at a Boche compound. We noticed we caused considerable excitement and learned from the C. O. the next day it was because it was the first the Boche knew America was on the Allied side —they had heard we were in, but had been led to believe we were with the Germans.

VERMONT MEDICINE SUFFERS WITH YOU!

The increased cost of publication and the generally high cost of material makes it necessary for *Southwestern Medicine* either to suspend publication temporarily or to reduce the number of pages in each issue. The Board of Managers has decided that the latter course is the one to pursue, and therefore, beginning with this issue the number of pages will be reduced to an average of 32 in each issue until such time as conditions and the income of the *Journal* warrant an increase in size.—*Southwestern Medicine.*

DIAGNOSIS SIMPLIFIED

Uncle Jerry, carrying a sack on his back, accosted Uncle Lucius. "Tell me how many pigs I have in the bag and I'll give you the whole five."

"Five, I guess."

"Well, take 'em and d—— the man that told you."

DR. CLAYTON WITTERS BARTLETT, PRESIDENT OF THE VERMONT STATE MEDICAL SOCIETY

At the 104th Annual Meeting of the Vermont State Medical Society recently held at Barre, Dr. Clayton Witters Bartlett was elected President.

Dr. Bartlett was born at Georgia, Vt., Sept. 25, 1865. He took his degree of M. D. at the University of Vermont in 1888 and began the practice of his profession at East Dorset. He soon removed to Bennington, where he has since resided.

He early joined the State Society and has always been an enthusiastic and energetic member.

He was Vice-President 1915-1916.

News Notes

Dr. F. E. Dean, health officer for the town of Shaftsbury, was called to the section near the New York state line, locally known as Sodom, to take charge of the bodies of twin infants that had been found under a bridge. The discovery was made by men who were engaged in repairing the highway. In the opinion of the physician, the bodies had not been under the bridge, which crosses a small stream, more than two days.

First Lieut. S. H. Martin, of the United States Medical Reserve Corps, now stationed at Fort Ontario, Oswego, N. Y., was at his home in Alburg recently on a brief furlough. A banquet in his honor was given at a special communication at the rooms of Columbus Lodge, F. & A. M., of which he was worshipful master at the time he enlisted. Dr. Martin expects to sail for France soon.

Dr. F. C. Angell of Randolph has received from the war department a commission as first lieutenant, medical section of the officers reserve corps, United States army, dating from September 21. He expects to be assigned to military X-ray work under instruction by Major George in Boston, for a period of six weeks at least, prior to duty somewhere with the United States army.

At a meeting of the attending staff of physicians and surgeons of the Rutland hospital that body reorganized by re-electing Dr. J. M. Hamilton president and Dr. C. F. Ball, secretary. It was voted to carry out the same order

of service as was in operation last year, with the exception that Dr. F. H. Gebhardt, the new member, is to assist throughout the year on different services.

Dr. Carl E. Allison, of Wakefield, Mass., formerly of St. Johnsbury, who sailed with a Harvard unit in January, has been commissioned captain of the Royal Army Medical Corps and has charge of the 300 wounded patients at the third southern general hospital. The hospital is stationed in the Oxford College buildings at Oxford, England.

Letters and cards have been received from Lieut. Ray Ernest Smith, who is now in France with the Regulars. He reports himself well but suffering somewhat from a shortage of water, sugar, tobacco and reading matter. He expected at the date of his cards (Sept. 27th) to have early orders to go nearer the front.

Dr. Howard D. Hinman of Enosburg Falls and Miss Esther Burnham Wonson, only daughter of Mr. and Mrs. Hermon F. Wonson of East Gloucester, Mass., were married at the Chapel Street Baptist Church in East Gloucester on Sunday noon, October 7.

Dr. W. H. Paige of Brownwood, Texas, formerly of Ludlow, has received an appointment as first lieutenant in the medical corps of the army and is now at Fort Worth, Texas, at Camp Bowie with the Sixth Texas regiment.

Dr. E. P. Lunderville has sold his practice in Richford to Dr. H. A. Bogue, a former practicing physician in that place but for the past few years a resident of California. Dr. Lunderville has moved to St. Albans.

At the annual meeting of the St. Albans Clinical Society Dr. E. A. Hyatt was elected president and Dr. W. B. Arnold secretary and treasurer for the ensuing year.

Dr. C. B. Warren, who has been practicing medicine in West Rutland for several years, has moved to Englewood, N. J.

Capt. G. G. Marshall, M. R. C., has sailed for Panama under orders to report at Balboa Heights for service.

Dr. Charles H. Deane of Salisbury is soon to remove to Akron, Ohio, for the practice of his profession.

Excerpts from Other Journals

RABBIT-FOOT THERAPY

Few but ignorant darkies have any great faith in the therapeutic efficacy of the left hind foot of a rabbit caught in the churchyard in the dark of the moon. In the light of modern therapeutics one is tempted to believe, however, that had some one person or firm an exclusive proprietary right to this particular brand of rabbits' feet, there would be many intelligent people—and not all of them laymen—ready to swear by rabbit's foot therapy. In medical journals (whose advertising pages set forth the virtues of the pedal extremities of *Lepus sylvaticus*) many solemnly scientific articles would probably appear relating the success that the writers had had with this form of therapy in the treatment of some distressingly stubborn conditions that had failed to respond to all previous efforts. Is it ubiquity that has saved the homely cotton-tail from being a therapeutic hero? —*Journal American Medical Association,* Sept. 29, 1917.

MASTOID OPERATION

E. P. Dench, New York (*Journal A. M. A.*, Sept. 15, 1917) deplores the fear of the public and a large number of medical men of the operation for involvement of the mastoid. The mastoid is simply a part of the middle ear and proper drainage is the treatment. Relief by puncture of the drum is the simplest form of mastoid operation, and when symptoms indicate insufficient drainage after this, a posterior incision is required. The first indication for operative interference complained of by the patient is pain, and if it continues after drum incision, pain alone is sufficient indication for opening the mastoid. It has been his almost invariable experience that where spontaneous pain is the only indication for operation, the mastoiditis is of the hemorrhagic variety. Some of the worst cases run without fever, but a persistent high temperature or intermittent temperature with exacerbation naturally calls for exploration, but its absence is not a contraindication. Local tenderness is one of the most valuable signs. Antrum tenderness is more valuable, and a particularly significant sign is recurrent tenderness. The most important of all the signs found on instrumental examination showing evidence of insufficient drainage is a persistent bulging of the upper and posterior portion of the drum membrane with a sinking of the corresponding adjacent meatal walls. This sign present ten days after the inception of the acute infection has been in his experience an almost pathognomonic one for operation. The bacteriologic content of the discharge is significant, and its examination is Dench's invariable practice. It is usually possible to determine the predominating organism. A streptococcus or pneumococcus are the dangerous organisms, and the *S. capsulatus* almost always demands operative interference by the posterior incision. It should be taken as an invariable law that this infection should be watched with exceeding care, and in no case should be considered safe until the middle ear has returned to its normal functional and physical conditions. The amount of discharge in a doubtful case is an indication for operation, and a profuse discharge lasting more than three weeks has in his experience always been indicative of insufficient tympanic drainage. The length of time that the middle ear inflammation has continued is also a valuable factor. Even after apparent recovery has taken place after a primary infection, symptoms which seem to indicate an unexplained toxemia with impaired hearing and perhaps some slight vertigo, headache, loss of flesh, etc., may be complained of and should be considered by the surgeon. The history of an attack of otitis media may be very indefinite, and the otoscopic appearances should be taken also into consideration. In these doubtful cases he always suggests an exploratory operation. He absolutely condemns temporizing treatment by repeated drum incisions. A persistent impairment of hearing is also an important indication, and symptoms of involvement of the static labyrinth also call for interference. In obscure cases there may be symptoms referable to the meninges and spinal puncture may help the diagnosis. In all cases of mastoiditis roentgenoscopy has been of great value, especially where the history is indefinite.

SURGICAL SHOCK

Yandell Henderson, A. L. Prince and H. W. Haggard, New Haven, Conn. (*Journal A. M. A.,* Sept. 22, 1917), in a preliminary note report some of the results of a study of surgical shock. They selected as their part of the co-operative investigation of the subject carried on under the National Research Councils: (1) bearing of excessive and prolonged secretion of epinephrin on the production of shock; (2) the relation of acidosis to shock; (3) the oxidated metabolism in shock. As regards the first of these, experiments on cats and dogs by infusion into the femoral vein, thus keeping up the blood pressure to a very high level from one half hour to two hours, led them to the conclusion that excessive secretion of epinephrin (if it occurs under pain) is not a critical important factor in the production of shock. It is therefore improbable that surgical shock is the result of surgical shock of the suprarenals, secondary to sensory stimulation. Some years ago a theory of shock was put forward from their laboratory which assigned the development of acidosis largely to decrease of the carbon dioxid content of the blood from the excessive breathing induced by ether, pain, and fear. The occurrence of acidosis with shock was in fact recognized in their former papers and it appears desirable to investigate further the relation of acidosis to shock and the excessive breathing as above stated. Ten dogs were employed in the experiments which are detailed, and the question was raised as to whether the hyperpnea of ether excitement and pain or whether the accompanying decrease of carbon dioxid combining power in the blood was the cause of the shock. "The acapnia theory assigned a primary rôle to the hyperpnea, while the acidosis theory now current would make the hyperpnea merely secondary. Does the alkali of the blood control the carbon dioxid or the carbon dioxid the alkali? In most forms of acidosis the former is the case. In shock, however, the latter may, in part at least, be the true sequence. It may be recalled that in experiments on shock previously reported from this laboratory it was found that when excessive loss of carbon dioxid was prevented by rebreathing procedures, the carbon dioxid content of the blood was only slightly lowered, and the shock either did not result or was much reduced in intensity. These facts suggest that the acidosis of ether anesthesia is compensatory to or a result of the acapnia produced by the hyperpnea of ether excitement." The acidosis or the reduction of the alkali reserve is, at least in respect to respiration, clearly of a compensatory character, otherwise the intense acapnia would quickly result in a fatal acapnia. In their metabolism experiments where the oxygen consumption and carbon dioxid elimination were observed before and after shock, they found the oxygen consumption falling 45 per cent. in one experiment and 50 per cent. in another, showing a profound depression of metabolism progressive in character and ending fatally. They mention, in closing, the possibility of obtaining information on this point from the use of the gas mask at the front in the present war which will enable us to test the practical question whether rebreathing will prevent or decrease the development of shock in the severely wounded as it does in animal experiments.

ANTIPOLIOMYELITIS SERUM

E. C. Rosenow, Rochester, Minn. (*Journal A. M. A.*, July 28, 1917), after discussing the accounts of work already done describes his method of immunization of horses in his experimental work and the effects of the immune virus in vitro and in the protection of monkeys. The protocols of his experiments on the latter are given, also the numerous agglutination experiments made with the pleomorphic streptococcus with the serums from immunized horses with the serums from patients recovered from poliomyelitis and with the serums of monkeys paralyzed with the virus. He finds that: "1. The serum of horses immunized with aerobic cultures of the pleomorphic streptococcus from both poliomyelitis in man and experimental poliomyelitis in the monkey, developed specific antibodies, agglutinins and complement-deviating properties, the agglutinins appearing to be present in large amount because the serums cross-agglutinate these strains specifically in very high dilutions. 2. The serum of patients and monkeys which have recovered from attacks of poliomyelitis cross-agglutinates specifically many, but not all, of these strains in the lower dilutions. 3. What is of greatest significance, the serum of the horse immunized with recently isolated strains from experimental poliomyelitis in the monkey appears to have developed neutralizing, protective and curative power against the virus of poliomyelitis."

THE CARREL-DAKIN SOLUTION

F. Rosengarten, Philadelphia (*Journal A. M. A.*, Sept. 29, 1917), says that the process described by the originators requires more or less chemical skill and equipment and he offers a modified method which is rapid and available to any practitioner. The material and process are given as follows: "1. Chlorinated soda solution, which should contain from 2.8 to 2.9 per cent. of available chlorin. 2. An approximately 5 per cent. aqueous solution of sodium bicarbonate. 3. Phenolphthalein powder. Dilute one volume of the chlorinated soda solution with 5 volumes of water, add 25 c.c. of the sodium bicarbonate solution for every liter of chlorinated soda and mix well. Now remove about 20 c.c. of the solution, add to it a small pinch of phenolphthalein, and shake gently for two minutes. If no red color appears, the solution is ready for use. Should a red color develop, add from 10 to 20 c.c. more of sodium bicarbonate to the solution, mix well, and test for free alkali with phenolphthalein as described above. Repeat the addition of sodium bicarbonate if necessary until 20 c.c. of the solution show no red color when tested with phenolphthalein in the manner described above. A slight excess of sodium bicarbonate will probably not affect the quality of the solution." The objection to the use of ordinary chlorinated sodium solution is the irritation it causes from the caustic alkali it contains. To overcome this Carrel and Dakin use sodium bicarbonate in their solution but by the method described all that is necessary is to dilute the solution and then neutralize it with sodium bicarbonate. Since the solution thus prepared is free of caustic alkali and contains the same amount of available chlorin as the Carrel-Dakin solution, it is reasonable to believe that it

will have the same therapeutic effect. While neither solution will keep for a long time the one here proposed is more durable than the Carrel-Dakin solution.

THAT DEADLY PSORIASIS

Many and various are the excuses offered to support the claims for exemption from military service. One of the latest to be given publicity is that made by a man who offered affidavits from two physicians setting forth—to quote from newspapers—that his wife "was suffering from psoriasis, a skin disease which they [the physicians] averred was incurable and which, if not given proper care and treatment, might prove fatal." That psoriasis may be incurable can be readily granted; so also may be baldness and pigeon-toes—and about as fatal.—*Journal American Medical Association*, Sept. 15, 1917.

Book Review

"NOSTRUMS FOR KIDNEY DISEASES AND DIABETES."—Prepared and issued by The Propaganda Department of The Journal of the American Medical Association. 47 pages; deals with 34 nostrums; illustrated. American Medical Association, 535 North Dearborn St., Chicago. Paper, 10 cents postpaid.

This is the latest pamphlet issued by The Propaganda Department of the Journal of the American Medical Association as part of its work in giving the medical profession and the public the facts regarding different phases of the nostrum evil and quackery. Nostrums for kidney disease and diabetes are grouped together in one pamphlet, not because there is any essential relation between diabetes and kidney disease, but because the average quack makes no distinction between the two conditions and recommends his nostrum indiscriminately for both.

From the Council of Pharmacy and Chemistry

During September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories:
- Chlorinated Eucalyptol-Dakin
- Chlorinated Paraffin Oil-Dakin
- Dichloramine—T, Abbott
- Halazone-Abbott
- Halazone Tablets-Abbott

General Laboratories:
- Hyclorite

Schering and Glatz:
- Camiofen Ointment

NEW AND NON-OFFICIAL REMEDIES

Concentrated Solution Sodium Hypochlorite-Mulford—A 5 per cent aqueous solution of sodium hypochlorite containing free chlorin equivalent to 0.2 to 1.0 per cent. of sodium hypochlorite. One volume is diluted with nine volumes of water and the amount of boric acid required (stated on the label) to render the solution neutral is added. This dilution is used in the irrigation method of treating infected wounds. The H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Sept. 1, 1917, p. 727).

Calcreose.—A mixture containing approximately equal weights of creosote and lime in chemical combination. It is stated that, when administered internally, calcreose has the same actions as creosote. It is claimed that it is not likely to produce gastric distress, nausea or vomiting. Calcreose is sold in the form of powder, as Solution Calcreose and as Calcreose Tablets, 4 grains. The Maltbie Chemical Co., Newark, N. J.

Betanaphthol Benzoate-Calco.—A brand of betanaphthol benzoate, complying with the New and Non-official Remedies standards. The Calco Chemical Co., Bound Brook, N. J. (*Jour. A. M. A.*, Sept. 8, 1917, p. 821).

Thiocol-Roche.—Thiocol is the potassium salt of orthoguaiacol sulphonic acid, obtained by sulphonating guaiacol. Thiocol-

Roche acts as a sedative expectorant. It has the advantage over guaiacol in that it is comparatively tasteless, does not disturb digestion and is non-toxic. It is claimed to be useful in the treatment of diseases of the respiratory tract, incipient tuberculosis and certain diarrheas. Thiocol-Roche is supplied in the form of a powder, as Syrup-Thiocol and as Thiocol-Roche Tablets, 5 grains. The Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Sept. 15, 1917, p. 911).

Dichloramine-T, Abbott.—Paratoluenesulphonedichloramide. This is said to act much like chlorazene, but capable of being used in solution in eucalyptol and liquid petrolatum, thus securing the gradual and sustained antiseptic action. Like chlorazene, dichloramine-T, Abbott is said to act essentially like the hypochlorites, but to be less irritating to the tissues. Dichloramine-T, Abbott is said to be useful in the prevention and treatment of diseases of the nose and throat. It has been used with success as an application to wounds, dissolved in chlorinated eucalyptol and chlorinated paraffin oil. The Abbott Laboratories, Chicago.

Chlorinated Eucalyptol-Dakin.—Eucalyptol chlorinated at ordinary temperature. It is used as a solvent for dichloramine-T. The Abbott Laboratories, Chicago.

Chlorinated Paraffin Oil-Dakin.—Liquid petrolatum, chlorinated at ordinary temperature. It is used as a diluent for solutions of dichloramine-T in chlorinated eucalyptol-Dakin. The Abbott Laboratories, Chicago.

Hyclorite.—A solution of chlorinated soda, each 100 Gm. being stated to contain sodium hypochlorite 4.05 Gm., sodium chloride 3.20 Gm., calcium hydroxide 0.25 Gm., inert salts 0.92 Gm. It contains not less than 3.85 per cent. available chlorine. Hyclorite has the action and uses of solution of chlorinated soda, U. S. P., but its available chlorine content is greater. One volume of hyclorite diluted with seven volumes of water has the same available chlorine content as neutral solution of chlorinated soda-N. N. R. and is said to be isotonic. The available chlorine content of hyclorite decreases at the rate of about 12 per cent. per year. In order that allowance for this deterioration may be made in the preparation of dilutions to be used in the irrigation treatment of wounds, each bottle of hyclorite bears the date of bottling. The General Laboratories, Madison, Wis. (*Jour. A. M. A.*, Sept. 29, 1917, p. 1081).

PROPAGANDA FOR REFORM

Chamley, Cancer Quack.—S. R. Chamley, sometimes spelling his name Chamlee, is the "cancer cure" quack who frightens impressionable women into the belief that "any lump in woman's breast is cancer." In spite of repeated prosecutions by the postal authorities, he is still active. Now he offers to instruct homeopaths and eclectics in the "cancer cure" business. Chamley asks that mail be sent to "Homeopathic Cancer College," Los Angeles, Cal. (*Jour. A. M. A.*, Sept. 1, 1917, p. 749).

Bon-Opto.—Bon-Opto is advertised to make weak eyes strong. The following nonquantitative and meaningless formula is furnished: "Chloretone, Zinc Sulphate, Sodium Chloride, Boric Acid, Menthe Poivree, Camphre de Menthe." The state chemists of New Hampshire report that Bon-Opto contains: sodium chlorid (common salt) 39.52; zinc sulphate (white vitriol) 6.83; boric acid, 39.69; menthol, a small amount (*Jour. A. M. A.*, Sept. 1, 1917, p. 750).

Wilson's Wa-Hoo Bitters.—"C. K. Wilson's Original Wa-Hoo Bitters was sold as a "Great Blood and Nerve Tonic" and as an unfailing specific for partial paralysis, St. Vitus Dance and all forms of weakness. Federal chemists reported the product to be a watery solution (slightly sweetened) of Epsom salt, salicylic acid and a laxative plant drug with indications of sassafras, gentian and prickly ash. The therapeutic claims were declared false and fraudulent by the government authorities (*Jour. A. M. A.*, Sept. 1, 1917, p. 750).

Ferrivine, Intramine and Collosol Iodine.—The Council on Pharmacy and Chemistry reports that Ferrivine, Intramine and Collosol Iodine, sold in the United States by E. Fougera and Co., Inc., were found inadmissible to New and Non-official Remedies. Ferrivine and Intramine are advertised for the treatment of syphilis, while Collosol Iodine, mercury and iodides are recommended as ad-

juvants. A carefully controlled clinical trial made by L. W. Harrison and C. H. Mills and reported in the Lancet indicated that Ferrivine and Intramine are inefficient as spirocheticides and that the local and general reactions that follow the injection are severe. They say that in the case of Intramine "the pain is undiluted torture" (*Jour. A. M. A.*, Sept. 8, 1917, p. 841).

Tyramin as an Adjunct to Morphin in Labor.—Henry G. Barbour, Yale University Medical School, aided by a grant from the Therapeutic Research Committee of the Council on Pharmacy and Chemistry, has studied the effects of tyramin on the action of morphin in labor. In labor morphin exhibits one desirable effect, analgesia, and two untoward results, namely, respiratory depression in the child and delay of labor. Experimental work at Yale having given no support to the use of scopolamin as an adjunct to morphin in labor, tyramin and similar bodies were studied. Animal experiments demonstrated that tyramin (para-hydroxy - phenyl - ethyl - amin - hydrochlorid) counteracted the respiratory depression of morphin. In man, from 40 to 50 mg. of tyramin, administered simultaneously with a therapeutic dose of morphin of 16 mg., completely antagonized the depressant action of morphin on the respiration. The effects of morphin-tyramin on normal labor is being studied at Yale. So far it appears that analgesia is as complete as if morphin were given alone. The respiration of the mother is increased rather than depressed and the condition of the children is quite satisfactory. Further, the uterine contractions have always been increased in frequency and in degree (*Jour. A. M. A.*, Sept 15, 1917, p. 882).

Musterole Poisoning.—D. I. Macht reports the case of a scarlatiniform eruption, evidently caused by an application of Musterole, a proprietary composed essentially of lard or some similar material, oil of mustard, menthol and camphor. Macht reports on the effects of mustard oil and warns against its careless use (*Jour. A. M. A.*, Sept. 15, 1917, p. 901).

Emetin Diarrhea.—Emetin not rarely produces a bloody diarrhea in the course of its clinical use in the treatment of amebic dysentery. The symptoms and the gross appearance of the stools in emetin diarrhea are almost indistinguishable from those of amebic dysentery. Contrary to a prevalent opinion, children are not especially resistant to the effects of emetin and the dosage for them must be graduated with great care (*Jour. A. M. A.*, Sept. 15, 1917, p. 916).

Spurious Neosalvarsan.—"Dr." Nicholas Clements is under indictment in New York City for manufacturing and selling imitation neosalvarsan. The material was put up in packages made to resemble in outward appearance the genuine article. It proved to be common salt colored yellow (*Jour. A. M. A.*, Sept. 15, 1917, p. 930).

Pierce's Anuric Tablets.—According to the World's Dispensary Medical Association, Anuric is the newest discovery in chemistry, whereas, in fact, it is a worthless and dangerous nostrum sold as a cure for kidney disease. The A. M. A. Chemical Laboratory reports that from a qualitative analysis, Anuric Tablets contained sugar, acetate, iodid and salicylate of either sodium or potassium, quinine, aloin, hexamethylenamin and plant drugs. The composition of the tablets was so evidently irrational and absurd that an exhaustive analysis was not deemed worth while (*Jour. A. M. A.*, Sept. 15, 1917, p. 930).

Venarsen.—F. A. Brayton used Venarsen in a series of active syphilitics to determine its therapeutic value. The clinical study was made because many physicians consider this sodium cacodylate preparation as an efficient substitute for salvarsan, even referring to it as "Denver salvarsan." His study confirms the experience of others, namely, that Venarsen is worthless in the therapy of syphilis. He also reports that a venous sclerosis was produced in each case in which the drug was administered and that it is capable of producing a severe nephritis (*Jour. Ind. State Med. Assn.*, Sept. 15, 1917, p. 339).

Volatile Irritants in Collapse.—To determine the action of so-called circulatory stimulants that are commonly administered by subcutaneous injection in shock or allied conditions, Lieb and Herrick have studied

the effects of injections of alcohol, ether, camphor and ether, camphor and oil, and turpentine in animals decerebrated so that the pain factor would be entirely excluded. They conclude that the transitory rise in blood pressure that these medicaments produce is entirely reflex in character. The heart plays little or no part in the process, the response being effected through the vasomotor apparatus. The use of injections of camphor in oil, or camphor in alcohol, to stimulate an anesthetized or profoundly prostrated or unconscious patient, therefore, has no experimental justification and its employment is seriously to be questioned (*Jour. A. M. A.*, Sept. 22, 1917, p. 1008).

Wheeler's Tissue Phosphates.—A leaflet devoted to the exploitation of Wheeler's Tissue Phosphates approvingly quotes the criticisms of the hypophosphites and the glycerophosphates by the *Journal A. M. A.* However, the leaflet fails to quote the *Journal's* estimate of the "Tissue Phosphates" which was: "'Wheeler's Tissue Phosphates' is an unscientific shotgun mixtur whose most active and powerful drug is the alcohol it contains. That it was not years ago relegated to the realms of obsolete and discarded preparations is a commentary alike on the lack of scientific discrimination and on the power of advertising" (*Jour. A. M. A.*, Sept. 22, 1917, p. 1010).

Ammonol.—The New York Medical Journal advertises Ammonol as "The Stimulant, Ethical, Antipyretic, and Analgesic." There we learn, in part, that this very ordinary mixture of acetanilid, ammonium carbonate and sodium bicarbonate is "a specific in Fevers, Neuralgia, Atonic Dyspepsia, Pneunorrhea, Uterine and Intestinal Colic, Obtarrhal Influenza, La Grippe, Rheumatism, Hysteria, Alcoholism, Amenorrhea, Dysmenorrhea, Uterine and Intestinal Colic. Obstinate Vomiting, Catarrh of the Bile Ducts and Jaundice" (*Jour. A. M. A.*, Sept. 22, 1917, p. 1010).

Fake Neosalvarsan.—The Department of Health of the City of New York has prepared a table whereby the spurious "neosalvarsan," recently located there, may be identified. The department urges physicians to destroy all salvarsan and neosalvarsan containers after use of the drug, to prevent illegitimate use of these containers (*Jour. A. M. A.*, Sept. 22, 1917, p. 1021).

"Nikalgin."—A recent issue of *Collier's* contains an article on "Nikalgin." Far-reaching claims for its anesthetic and antiseptic virtues have been made. While no very definite information seems to be forthcoming regarding the preparation, it has been said to be "composed of quinine, hydrochloric acid and urea." This would indicate that "Nikalgin" may be nothing more wonderful than the well known local anesthetic, quinine and urea hydrochloride, or a modification of it (*Jour. A. M. A.*, Sept. 22, 1917, p. 1024).

American-Made Synthetics.—The Council on Pharmacy and Chemistry announces that, with the aid of the A. M. A. Chemical Laboratory, it proposes to make a study of the quality of American-made synthetics. This control of synthetic drugs, which as a result of the war are now made in this country, is believed to be in the interest of the American industry, for the protection of the public and for the satisfaction of physicians. Since the manufacture of some of the synthetic drugs is to some extent experimental in this country, the Council feels confident that the responsible manufacturer will welcome this study as the best way of establishing complete confidence in his products (*Jour. A. M. A.*, Sept. 22, 1917, p. 1018).

Eskay's Neuro Phosphates.—The Council on Pharmacy and Chemistry reports that Eskay's Neuro Phosphates (Smith, Kline and French Co., Philadelphia) is claimed to contain alcohol 17 per cent. and sodium glycerophosphate 2 grains, calcium glycerophosphate 2 grains, strychnine glycerophosphate 1-64 grain, in each dessertspoonful. It is called a "Nerve Tissue Reconstructive" and the advertising claims are based on the discredited theory that certain disorders are due to a deficiency of phosphorus in the nerve structures of the body, and that glycerophosphates are assimilated more readily than ordinary phosphates. The Council held Eskay's Neuro Phosphates ineligible for New and Non-official Remedies because of the unwarranted therapeutic claims made for it, because the combination is irrational

and because the name is not descriptive of its composition (*Jour. A. M. A.*, Sept. 29, 1917, p. 1102).

K-Y Lubricating Jelly.—The Council on Pharmacy and Chemistry reports that K-Y Lubricating Jelly (Van Horrn and Sawtell, New York) originally advertised as a lubricant for instruments and the hands, is now also recommended as a therapeutic agent. The Council held K.-Y Lubricating Jelly in conflict with Rules 1, 4, 6 and 10 (*Jour. A. M. A.*, Sept. 29, 1917, p. 1102).

FUNCTIONAL TESTS IN CHRONIC NEPHRITIS

Christian discusses in the *International Clinics* the various tests to determine the functional capacity of the kidney, normally the phthalien output, blood, urea, nitrogen, index of urea, excretion and specific gravity of urine.

The last mentioned is a simple means of determining the functional capacity of the kidney. The kidney normally accommodates itself to different kinds of urea complexes by excreting a more or less concentrated urine, a urine which pretty closely parallels the fluid intake. If, however, the kidney is injured it does not accommodate itself so well and does not accommodate itself so prompty so that curves representing the specific gravity taken every two hours instead of showing marked variations flatten out in proportion as the kidney is diseased.

Christian believes that the functional tests are useful in determining prognosis, and, to a certain extent treatment, and in some cases diagnosis, when there is a question of early nephritis, but they are mainly helpful from the point of view of prognosis.

POLYCYTHEMIA

By ARTHUR F. BEIFELD

An interesting clinical lecture of a case of polycythemia by Beifeld is reproduced in the *International Clinics* for September. He deals with the differential diagnosis between polycythemia and other conditions associated with an increase in the number of red blood corpuscles, such as Osler-Vaquez's Disease and Geisbock's Disease or Polycythemia Hypertonia. The treatment of Polycythemia is largely symptomatic. For this purpose venesection is the most efficient agent. In Beifeld's case the blood pressure fell from 220 M.M. syptolic and 130 diastolic to 170 M.M. syptolic and 100 diastolic. In addition the red cells fell from 9,600,000 to 8,400,000, the haemoglobin from 115 to 105 per cent. The venesection must be repeated from time to time.

EXPERIENCES IN RECONSTRUCTION SURGERY OF THE EXTREMITIES

By WAYNE BABCOCK

In the September *International Clinics* Babcock calls attention to the needless sacrifice which is often made of extremities, especially the hands, which can be restored to a fair degree of usefulness by conservative surgery. The article is very profusely illustrated. He goes into considerable detail in showing how a badly injured limb may be saved, either partially or completely. The article, which does not lend itself readily to condensation, should be consulted by all interested in surgery. It is especially valuable for those entering the Military Service where many of the problems it deals with will be encountered frequently.

FOOD INSPECTION IN CINCINNATI

By J. H. LANDIS

For those interested in public health matters the article in the *International Clinics* by Landis has an important place. He gives in some detail the trials and tribulations of the Health Officer in his effort to bring about the proper protection of perishable foods. He points out that the greatest obstacle to progress in this, as in other public health measures is the political system prevalent in most of our large cities. As to the business man Landis is convinced that he has undergone a radical change and is now anxious to conform to the health regulations.

The results obtained in Cincinnati have been highly satisfactory. Comparatively little time is now required in the Police Court, where formerly it was an everyday affair.

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Original Papers

SOME PUBLIC HEALTH LESSONS OF THE WAR

By Charles S. Caverly, M.D., Sc.D.,
President Vermont Board of Health

Read at the 104th Annual Meeting of the Vermont State Medical Society, Barre, October 11, 1917.

It is of course far too soon to draw any definite or final conclusions from the titanic struggle which has been going on for three years in Europe, or from the experience of our own country after six months' mobilization efforts. Even now, however, certain facts, exceptional in the history of wars, are evident. Two features in the present conflict, significant to students of Preventive Medicine, may properly be now discussed. Both carry a lesson to us who have the keeping of the public health.

Acute infections

The first feature of this war which I wish to mention has to do with the incidence of infectious disease. There has been a reversal of the ratio that has formerly obtained between the wastage from epidemic disease and the casualties of war proper. Disease is not figuring in this war to any such extent as a handicap to the troops engaged, as was formerly the case.

Every European and Asiatic war, of which we have records, has been marked by widespread and fatal epidemics of such diseases as typhus, cholera, small-pox and the plague. On these diseases not infrequently has depended the issue of war. American armies have been no exception. Small-pox was the scourge of Washington's army. In our war with Mexico, Woodhull is quoted as saying that 935 were killed or died of wounds, to 4714 who died of disease. It is also a well known fact that during our Civil War the deaths from disease were more than twice those who were killed outright or died subsequently of wounds. Mayo in a recent paper states that during the Spanish War, 20 volunteers died of disease to each one who was killed by bullets; and it is a well known fact that of the 9,800 deaths from disease during that war, the great majority were due to enteric fever.

However, our Spanish War has its redeeming features. It is a landmark in the history of Preventive Medicine. From it dates our knowledge of the methods of transmission of yellow fever and the fly carriage of enteric. The former of these discoveries alone has been worth more to the world at large and especially the Western Continent than all this war cost us. Coupling the discovery of Major Reed and his associates with that of Major Ross, the English medical officer, who discovered the mosquito-dissemination of malaria, has

furnished the key to rendering the tropics habitable.

Enteric and dysentery have even until recent years been the constant camp diseases. The present war has furnished an opportunity to test on an enormous scale the efficacy of typhoid and para-typhoid inoculations. As far as revealed at the present time, this preventive treatment has been successful.

Early in the war, the Russian and Serbian armies suffered from typhus; and certain prison camps have since had outbreaks of this disease. These outbreaks, however, have been generally controlled without special difficulty, acting on the recently acquired knowledge of the insect-dissemination of this disease. American medical men, under the auspices of the American Red Cross, did creditable work in the Balkans in this line.

Tetanus and meningitis have figured as field diseases at various times during the war. Both have been successfully handled; the former by prophylactic inoculations, the latter by the curative serum and the prompt isolation of carriers. The detection of carrier cases of meningitis has enabled army medical men to early exclude them from contact with the rank and file. The success with which carriers of meningitis are identified now places the prophylaxis of this disease on a scientific basis. The *Deutsche Medizinische* is now quoted as giving figures showing in detail that the incidence of disease in both the German army and navy has decreased steadily as the was has progressed and that this is actually less now than during peace.

Thus the old-time ratio of three or four or even more lives sacrificed to disease to every one lost by bullets has been reversed in this war. The terrible effectiveness of modern arms and modern armies has not been decreased by these old-time infections.

While medical science has been occupied successfully in the mastery of these acute infections in military as well as civil life, others less spectacular but equally disabling still persist.

Tuberculosis.

Tuberculosis is still a factor and apparently an important one in the war. The prevalence of this disease among the European armies is variously estimated. Reports vary somewhat as to the incidence of this disease.

An International Tuberculosis Commission from this country visited France last winter, under the auspices of the Rockefeller Foundation. The published statement of a member of this Commission, Dr. Hermann M. Biggs of New York, is probably the most explicit and temperate report that has reached us regarding the prevalence of tuberculosis in France. His statements show that this disease is still a very live problem. He estimates that at the time he was there last winter there had been 150,000 cases of this disease in the army alone; that civilian prisoners taken by the Germans from conquered territory were being invalided back to France in large numbers and that of the first 20,000 so returned, nearly 25% suffered from this disease. He further estimates that there are from 150,000 to 175,000 cases of this disease among these civilian prisoners, with which France will ultimately have to deal. Furthermore, of the 350,000 or 400,000 prisoners of war held by Germany, living under unfavorable environment and insufficiently fed, 30 or 40% will have this disease, when exchanged. Finally, Biggs estimates that

if the war were to end today, there would be between 300,000 and 400,000 cases of tuberculosis to be cared for by the state, and France has practically no sanitorium facilities for handling such cases. Major Eduard Rist, of the Medical Corps of French Army, assigned to Surgeon-General's office by his government, has recently stated that reports of the prevalence of tuberculosis among the French troops which reach this country are exaggerated.

In England where an effective tuberculosis campaign had been waged for years; and where the tubercuolsis death rate was much lower prior to the war; and where greater care was exercised in the selection of recruits for the army, tuberculosis, as a result of the war, has been much less. There are, however, in the English army increasing numbers of the tubercuolus being returned from the front constantly.

Venereal Diseases.

Another constant accompaniment of camp life is the venereal disease. It is not necessary in this connection to rehearse in detail the presence of these diseases in the past among the armies of Europe or Ameriea. It is well known that they are a constant factor in the disability lists of every army. Exact facts and figures relative to the presence of these diseases in the present war are not available.

The regular correspondent of the *New York Medical Record,* writing from Paris in June, says of the prevalence of venereal diseases:

"In the series of letters, which I have been privileged to write to the *Medical Record,* I should feel that I had signally failed in a great duty, if I shrank from exposing to my medical colleagues the dangers that lurk in beautiful France to engulf the unsuspecting American soldier, and I dread and fear that bodies crippled by wounds and lost limbs are not the worst that will be brought back to the New World."

The same writer quotes Professor Gaucher as saying that before the war 10% of clinical patients in Paris hospitals had syphilis and that these had increased during the first months to 16% and during the last eight months of 1916 to 25%.

It is a far cry from Paris to Vermont. Let me, however, quote figures from our own records. We have a law in Vermont at the present time, requiring the reporting of venereal diseases to the State Board of Health We have also an army post in our midst located in Chittenden County. Of 344 cases of gonorrhoea reported up to September 1, 1917, 28% occurred in Chittenden County; and of 142 cases of syphilis, reported to September 1 in this year, 38% per cent occurred in Chittenden County. There are no figures available to show the incidence of the disease among the soldiers at Fort Ethan Allen. The above figures, however, are significant and represent the occurrence of these diseases among the civil population contiguous to an army post.

Infectious diseases, according to our present theories, depend chiefly upon human beings for distribution. Sanitary environment, food, occupation may all be predisposing or contributing factors. Man is, however, his own worst enemy, in the distribution of these infections. Whatever affects the military is bound to reach the civil population among whom the troops are billeted and to whom most return sooner or later. For this reason among others, we are all interested in disease incidence in our

troops. This is especially true of the chronic infections, tuberculosis and the venereal diseases. The prevalence of these diseases among our own troops and even among the armies of Europe carries a sinister meaning for America.

Most of us vividly remember the wave of disease that followed the Spanish War in this country. Small-pox, enteric, and venereal diseases all followed in its wake. America is alive to the tuberculosis problem in times of peace. A steady and successful campaign has been waged against this disease for twenty years. The results have been gratifying. Death rates from this disease have everywhere been cut in two. The accession of tuberculous soldiers to our civil population, which is bound to occur and possibly very soon, as a result of this war in France, must give a new impetus to the forces combatting that disease here. If, as has been intimated, the congestion in France is to be relieved by bringing the invalid tuberculous to America, America must give them the best care possible. It is a part of her duty to her ally. Our own recruits are receiving the most careful examination, by experts, to eliminate tuberculosis.

The venereal disease problem as affecting our army, which is still undergoing mobilization, is far more difficult. The Federal authorities, it must be stated, have shown an early and intelligent appreciation of the grave dangers in which our young soldiers stand in this regard. For the protection of our forces while still in camp in this country, the Council of National Defense has issued these recommendations, as a war measure:

"First, that under military control an effective zone shall be created about all military commands as the most practicable and effective measure to prevent venereal diseases. Second, that these miltary zones shall serve also as a means of control of alcoholic beverages to the troops. These decisions are reached by the Council after exhaustive study of conditions today among great European armies.

Zones about the military commands will, therefore, be created and conditions in these zones will be guarded by military measures so as to prevent the spread of venereal diseases. The two military arms of the government officially recognize that continence is compatible with health.

The Council also recommends, as a further solution of the problem, that all military commands be provided with good facilities for the recreation of the troops. It urges that all suitable athletics be encouraged.

The use of alcoholic beverages, on the part of soldiers and sailors in military commands, has long been under military control. But the creation now of these military zones will in effect extend such control over the troops when they are off duty out of the commands."

"To face these ugly facts in an unflinching and no half-hearted fashion," said Dr. Franklin H. Martin, member of the Advisory Commission of the Council of National Defense, "makes for the fighting power of the nation. But our troops are inseparably a part of our civil life, and a clean, wholesome, temperate life among these troops will in the end make for our civil advancement, compared to which the cost of the war is nothing."

Medicine, morals and the law must co-operate in any campaign dealing with these diseases. The Surgeon-General's office in a formal order has taken

early and proper action in regard to these diseases. Such action has been approved by Congress and the Secretaries of War and the Navy. The House of Delegates of the American Medical Association endorsing it, says:

"*Be it Resolved,* That the American Medical Association endorses the actions of Congress and the Council of National Defense and commends the following as the basis for a program of civil activities:—

1. That sexual continence is compatible with health and is the best prevention of venereal infections.

2. That steps be taken toward the eradication of venereal infections through the repression of prostitution, and by the provision of suitable recreational facilities, the control of alcoholic drinks, and other effective measures.

3. That plans be adopted for centralized control of venereal infections through special divisions of the proper public health and medical services.

4. That the hospitals and dispensaries be encouraged to increase their facilities for early treatment and follow-up service for venereal diseases as a measure of national efficiency.

5. That the members of the medical profession be urged to make every effort to promote public opinion in support of measures instituted in accordance with these principles of action in the control of venereal diseases."

No army was ever mobilized, in which health was more carefully safe-guarded. The success with which these safeguards are made operative depends very largely on the civil authorities, the moral sentiment of the communities where these troops are stationed, and upon the medical profession.

Alcohol and the social evil are always allied. Both make for the undoing of armies in the field.

Under the stress of war, all the countries engaged have found it to their advantage to carefully limit the use of alcoholic beverages. No more convincing temperance sermon could possibly be adduced than this fact. Alcohol takes its place with pestilence, as a serious handicap to the nation engaged in war. Alcohol and disease belong together. The sweeping act recently passed by the United States Senate, prohibiting the manufacture or sale of alcohol for beverage purposes and proposing to make this a part of the nation's constitution, is a logical sequence of the developments of this war. Whatever adds to the health and vigor of the soldier in wartime, may be fairly considered beneficial to the citizens in times of peace.

Selective Draft.

The other feature developed in the course of our war preparations, from which, it seems to me, we should draw a valuable lesson, is the apparently large number rejected in the Selective Draft, as physically unfit. I say apparently, as I am well aware that here, too, final figures may not be available for a long time. Such scattering figures as have come to my notice place the physically unfit between 30 and 50% of the drafted men.

We are beginning to learn the meaning of the much used word "Preparedness." Much has been written and said in Congress and elsewhere in recent years about *conservation.* We have been told that we were extravagant; that we should learn to conserve our natural resources, our forests, our mines, our food supplies, our water powers;

and it has been suggested, our men and women. Conservation and preparedness are words to conjure with at this time. Finances, fuel, food, ammunition, ships, and billions of treasure for war purposes are of absorbing interest and importance. We are just learning that strong men—strong in body as well as mind—are of even greater importance.

"Ill fares the land to hastening ills a prey
Where wealth accumulates and men decay."

Rich in goods, in Nature's bounty, America has been careless of her men.

No one can forecast the length of the present war. No more can we tell how soon another war may be forced upon us. *Preparedness, conservation,* in fact as well as theory, will be guiding words for this country in the future. They will be the best guarantee against another war. From one-third to one-half our young men unfit to perform the highest duty of citizenship is too many.

Hernias, defective vision, heart disease, defective teeth, flat feet, mouth breathing, spinal deformities, and deformities of the extremities, varicocele and varicose veins are some of the defects apparently most common among the conscripts.*

*From reports received by Dr. Dalton, Secretary of the State Board of Health, from seven medical examiners in as many Vermont exemption districts, under the draft law, these figures are culled:

The percentage of rejections for physical disabilities ranged from 17 to 52.

Whole number examined	3,167
Number rejected	1,470
Percentage rejected	46+

Most common defects noted in order of frequency were under-weight or height, hernia, defective vision, bad teeth, heart disease, flat feet, deformities, mouth breathing.

The lesson of this "Selective Draft," through which we are now passing, should not be lost in the excitement of war. It is the national taking of stock of the country's young manhood. Its benefits will be two-fold. It will disclose to thousands of young men physical weaknesses, which may be remedied now by suitable treatment, and it will reveal to other thousands permanent disabilities which might have been altogether prevented.

Eugenics, infant welfare, child hygiene, school sanitation are names coming more and more into prominence as branches of social service and practical sanitation. One lesson which this "Selective Draft" teaches us is that we have been careless of child life. The child is the man in the making. The healthy, vigorous man is not the result of chance. The child whose health is properly safeguarded and whose physical training is the object of study is less apt to be catalogued with the unfit. In other words, greater regard should be given to the physical development and health of the children and youth of the land. Our past shortcomings are being revealed. We have been proverbially extravagant of all our natural resources, and not least of our men. Civilization looks to us not only for the munitions of war and the necessities of life, but likewise for an army of vigorous, well-developed men.

These, then, are two lessons that, it seems to me, can be drawn even now from this world war: first, while we have apparently gained a mastery over the acute infections, formerly fatal to armies, the two chronic infections, tuberculosis and the venereal diseases, are still live and serious problems; and second, from one-third to one-half of

our young men are unfit physically for military duty.

Medical men of Vermont: This is a fit time to show patriotism in fact as well as in theory. We shall never see a fitter time. As practitioners of medicine, as plain citizens, we may properly seek ways of practically demonstrating our patriotism. Many of the best men in our profession are already doing duty at the front. It behooves us all to contribute our best thought and energies, for our country must win this war. The peculiar service that the medical profession alone can render was never more needed and must not be withheld.

Such service may be as effective and valuable here at home as in the camp.

The two public health lessons of this war, to which I have referred, contain a challenge to every American medical man, and that means us. The control of tuberculosis and the venereal diseases and the production of clean, hardy, red-blooded men, worthy descendants of a sturdy race, ought to be still possible in Vermont. It is possible. It has been quite freely and somewhat authoritatively stated in recent years that the city baby stood a better chance than his country cousin; that the school child in the city was stronger and had fewer physical defects than the country boy and girl of school age. It will be interesting to know if this selective draft corroborates this statement.

As to the first of these problems—tuberculosis and the venereal diseases: the Vermont statutes are more explicit than in most states. I am, however, making an appeal, not a threat or a criticism. I would appeal to your patriotism, to your loyalty to your state and country, as well as to the best traditions of our profession. No disease can be controlled or successfully dealt with until it is located, until we know how many and where the cases are. Report your cases of tuberculosis and the venereal diseases. Use every facility which a free state laboratory places at your disposal to detect these diseases, and detect them *early*. The state places sanatorium care in tuberculosis within the reach of your needy patients. See that all secure it. Facilities for caring for the venereal cases are not available. The State by its Health Board furnishes means for diagnosing these diseases and treating them at cost, and dangerous or incorrigible cases may be legally isolated. Furthermore, as physicians, you should be teachers and leaders. Tell your clientele and the public the truth about these infections; as good citizens, back up the officers of the law in suppressing prostitution in all places and enforcing the liquor laws: preach the gospel of "clean, wholesome, temperate lives."

The second lesson, that of the Selective Draft, directs our attention to child- and young life. President Lowell of Harvard has said that although we had not prepared for war, we had no excuse, if during the war, we did not prepare for peace. Many of the commonest physical defects revealed by the draft might have been prevented, if we had given proper attention to the physical side of these men during school life. My plea in this connection is for Health Inspection in our public schools. The present Vermont law requires a School Board to appoint one or more medical inspectors, when the legal voters so vote; these inspectors may be either licensed physicians or trained nurses, and their pay shall be fixed by the School Board. Under this law, a hand-

ful of Vermont towns vote for such inspection, and, with rare exceptions, pay for it less than 1% of the school money. Evidently our School Boards have little regard for bodily health, or else they think the health of Vermont boys and girls may be safely trusted to luck and the natural advantages of the state. No greater mistake can be made. It is mathematically certain today that the child, whose health is intelligently safeguarded in the school, whether in city or country, has an advantage over his brother or sister, whose health is left to take care of itself.

Such inspection as is now made in Vermont is of no special value, as far as eliminating chronic disabilities is concerned. The money paid for it is not wholly wasted because acute infections are undoubtedly often discovered and excluded from school. With no provision for "follow up" work, however, the chronic defects, like bad teeth, throat and nose obstruction, pulmonary, spinal and heart diseases are too apt to go untreated. The doctors of the state are largely responsible for this situation. A united and active profession might secure, first, a change in the law providing for inspection units corresponding to present superintendent units in our schools, and a provision for both Medical Inspector and school nurse in each, with pay commensurate with the importance of the work; and second, the entire success of its enforcement by hearty co-operation with such inspectors and nurses.

Considering the rarity with which our towns at present vote for inspection and the pittance usually allowed for compensation, it is not to be wondered at that heart disease, defective hearing and vision, bad teeth, spinal disease, tuberculosis and mouth breathing handicapped so many young men in this Selective Draft.

You will observe that I am counting on the active support of medical men in these suggestions. Although we are a conservative profession in a conservative state, I have faith to believe that Vermont medical men are patriotic. Everyone knows that there was never a time when our country needed tangible evidence of patriotism on the part of the medical profession more than at this moment.

These draft examinations have served a useful purpose, one that reaches beyond the probable limits of this present world war. They have shown our weaknesses as well as our strength. A frank recognition of our defects will be all that is necessary to secure their removal.

Whether for peace or more war, future Americans between twenty-one and thirty-one years of age will surely show up better under physical examinations.

Thus will we show that we have learned the lessons of conservation, of preparedness, as regards our most valuable asset—men.

Note.—The discussion on this paper will be published next month.

THE TONSIL QUESTION IN CHILDREN

G. W. Boot (*Annals of Otology, Rhinology and Laryngology*, March 1917) believes that if a child with acutely enlarged tonsils is put on syrup ferri iodidi for two or three weeks, a wonderful reduction in size often follows, and tonsillectomy may not be necessary. When tuberculosis of the cervical glands exists, he thinks it a mistake to remove the infected glands and leave the tonsils, believing the removal of the tonsils is really of more importance than the sacrifice of the cervical glands.

The War

Honor Roll of Vermont Physicians in the Service of their Country.

Majors

Thos. J. Hagan, M.C., Nat'l Army, 1st Vermont Inf., Camp Bartlett.
Edward A. Tobin, M. O. R. C., Plattsburg Barracks.
Wm. Warren Townshend, M. O. R. C., Chief G. U. Service, Camp Dix.

Captains

Geo. E. Chamberlain, So. Newbury, Vt., physically disabled.
Frederick Elsworth Clark, Fort Ethan Allen.
Harry Leslie Frost, Adjt. Med. Training Camp, Fort Ethan Allen.
Henry Chester Jackson, M. O. T. Camp, Ft. Benj. Harrison.
Horatio Nelson Jackson, no report.
Geo. Guerin Marshall, Balboa Heights, Panama.
Wm. Hayes Mitchell, Ft. Ethan Allen.
Wm. Stickney, Chief of Surgical Section, Base Hospital, Camp Upton.
Herbert Wellington Taylor, in France.

Lieutenants

Geo. Albert Alden, no report.
Fred Noble Aldrich, in France.
Frank C. Angell, no report.
Geo. Lucien Bates, M. O. T. Camp, Ft. Benj. Harrison.
Robert Oscar Blood, M. O. T. Camp, Ft. Benj. Harrison.
Arthur Washington Burnham, M. O. T. Camp, Ft. Benj. Harrison.
Mitchell D. Carey, Montpelier, inactive list.
Charles P. Chandler, Montpelier, inactive list.
Julius E. Dewey, Montpelier, inactive list.
Francis J. Ennis, Burlington, Vt., inactive list.
Frank Leslie Gilbert, M. O. T. Camp, Ft. Benj. Harrison.
Stewart Louis Goodrich, Camp Hospt., Gettysburg, Pa.
Albert Joseph Greenwood, no report.
Herbert Bill Hanson, M. O. T. Camp, Ft. Benj. Harrison.
Waldo Russell Harkness, Montpelier, inactive list.
Frederick W. Harriman, Montpelier, inactive list.
Arthur Leo Larner, Ft. Ethan Allen.
Geo. Eugene Latour, M. O. T. Camp, Ft. Benj. Harrison.
Casper Sylvester Leach, no report.
Charles Emerson Libbey, Camp Taylor.
Robert Leland Maynard, no report.
Seth H. Martin, Ft. Ontario.
Walter Franklin McKenzie, M. O. T. Camp, Ft. Benj. Harrison.
JOHN C. MURPHY, died in service, Ft. Ethan Allen.
Thomas Rice, M. O. T. Camp, Ft. Benj. Harrison.
George Roberts, M. O. T. Camp, Ft. Benj. Harrison.
Geo. Albert Russell, 19th Cavalry, Ft. Ethen Allen.
Chester Lewis Smart, School of Roentgenology, Boston.
Ray Ernest Smith, in France.
Henry Eugene St. Antoine, Jamaica Plain, Mass.

John David Thomas, Ft. Ethan Allen.

Ray Brown Thomas, M. O. T. Camp, Ft. Benj. Harrison.

Henry Latimer Tillotson, Groton, Vt., inactive list.

Henry Reuben Weston, Base Hospital, Camp Lee.

Rollin D. Worden, M. O. T. Camp, Ft. Benj. Harrison.

Navy.

Bertrand Fletcher Andrews.

Edward A. Crofutt.

Ransom H. Holcomb.

John Dowd Lane.

Leland McKinlay.

Charles Edward Morse.

Capitals indicate, died in service.

Italics, serving in France.

Information is requested that this roll may be kept as nearly correct as possible.

A RIGHTFUL PEACE

America, says President Wilson, will not make a peace that is not based on a rightful settlement of the principles for which the Nation is fighting. The only end to the war is a complete victory for the nations representing democratic ideals over the nations adhering to the German doctrine of force. A German success would mean not only the prevention of the spirit of democracy but possibly might include the suppression of that already existing.

The President voices the ideals and the determination of the American people. There must be no compromise with the things that the German Imperial Government stands for and has practiced. Germany sought to impose her "kultur" on the world; the result is going to be that the American ideals of liberty and right and justice will prevail throughout the world, even in Germany.

VERMONT STATE COMMITTEE OF NATIONAL DEFENSE, MEDICAL SECTION

This Committee held its 6th meeting at the Hotel Vermont, Burlington, Wednesday Evening, October 31st, 1917.

Dr. Henry C. Tinkham of Burlington was elected Chairman vice Major W. W. Townsend, now in active service.

The Treasurer reported the receipt of $26.00 from the Washington County Medical Society and of $20.75 from the Rutland County Medical and Surgical Society.

The Business of the meeting was to arrange for further meetings in Vermont to induce more medical men to volunteer their services in the Medical Officers Reserve Corps.

Tentative arrangements were made and the matter will now be submitted to Washington for approval.

Although there are not many Reserve men being assigned to the active list just at this time, the Surgeon General is very anxious to have as many men enrolled as possible so that he may call upon them when their services are needed.

FOR THE INFORMATION OF SURGEONS OF THE M. O. R. C. ON THE INACTIVE LIST.

War Department, Office of The Surgeon General, Washington.

Oct. 29, 1917.

From: The Surgeon-General of the Army.

To: The Surgeon, Fort Ethan Allen, Vermont.

Subject: Officers of the Medical Reserve Corps on the Inactive List.

1. Appeals for active duty accompanied by statements that officers have ceased all civil practice, have sold their homes and otherwise severed local connections, are continually reaching this office, leading us to the conclusion that some misunderstanding must exist as to the conditions under which appointments to the Medical Reserve Corps are accepted.

2. You are requested to give the widest publicity to the fact that the acceptance of a commission in the Reserve Corps does not necessarily imply immediate assignment to active duty; that the Reserve Corps has been organized to meet the conditions that will arise when our troops are more extensively engaged and that until that time officers should continue their usual duties pending notice that orders are to be issued.

3. Up to within a short time ago it was possible to assign Officers as rapidly as appointments were accepted, but for some time to come very few Officers will be called out, unless conditions materially change.

4. We have every reason to expect that the services of every available medical officer will be eventually required, but it is manifestly impossible to utilize the entire corps with the number of troops now serving.

5. All officers of the Reserve Corps on the inactive list will be given at least fifteen days' notice when first assigned to active duty. Until they receive such notice, they should continue with their civil practice.

By direction of the Surgeon-General.

(Signed) R. B. MILLER,
Lieut-Col. Medical Corps, U. S. A.

A true copy.

EXPENSES CONNECTED WITH COMMISSIONS IN RESERVE CORPS

The following bulletin has been issued from the Surgeon-General's office:

"One common error is that the field outfit costs not less than $300. An officer of the reserve may easily spend this amount of money upon his outfit should he so desire, but it is entirely an unnecessary expenditure and an extravagance. Most officers of the army buy their service uniforms from the quartermaster corps. The prices July 1, 1916, were as follows: Coat, cotton, olive drab, $1.33; woolen, olive drab, $3.95; shoes, russet, $2.81; overcoat, olive drab, $9.04; trousers, cotton, olive drab, $1.19; woolen, olive drab, $2.62; cot, folding, $2.06. Each officer should also provide himself with a folding chair, or table, the price of which is about the same as that of a cot; also a lantern and a few other articles. Buckets, canvas, for officers, 86c; basins, canvas, 36c. Owing

to the recent increase in prices, raw material and cost of labor, these articles will be from two to two and a half times the prices quoted above.

"Blankets (each officer should supply himself with three) may be purchased in the open market at approximately $6 apiece. Bedding rolls cannot now be purchased from the quartermaster's department, but should be purchased in open market for about $10. Puttees, about $10 per pair.

"It is an unnecessary extravagance for officers to purchase field uniforms at a price of $40, $50 or more.

"Mess expenses. In the field officers as a rule mess with their organizations, the cost of which will be approximately $15 per month. Additional expenses will depend upon the personal equation of the officer.

"The pay of the various grades is as follows: Lieutenant, $2,000; captain, $2,400; major, $3,000, plus ten per cent. for foreign service.

"Fifty dollars ($50) per month for an officer in the field would be a very liberal allowance for all expenses. It is understood that a number of medical men refuse to apply for commission in the reserve corps on the grounds that the mess dues and other necessary expenses require the full salary of a first lieutenant. Such belief is absolutely incorrect. The expenses are as indicated above, and there is no reason why an officer in the field should not save the greater portion of his pay. In cantonments and camps in the United States the expenses would possibly be slightly higher, but in no case should they prevent an officer from saving the major portion of his pay should he so desire."

RE-ELECTION OF THE STAFF OF VERMONT MEDICINE

At a meeting of the Publication Committee held in Burlington Oct. 31st, the staff of VERMONT MEDICINE were re-elected: Dr. A. S. M. Chisholm of Bennington, Editor; and Dr. Jas. M. Hamilton of Rutland, Business Manager.

Necrology

EMMETT BURR DALEY

Born in Albany, N. Y., Dec. 22, 1855. Died at Samaritan Hospital, Troy, N. Y., Oct. 10, 1917, of uremia.

Dr. Daley was educated in the public schools of New York City; graduated from N. Y. College in 1872; and from the Medical School of the College of the City of New York in 1879.

He married Hattie Josephine Hosford on Aug. 16, 1881.

He practiced medicine one year in Rutland, Vt., and in November, 1882, began the practice of his profession in Bennington, where he resided until his death.

He was always active in local medical societies. He joined the newly organized county society on Mar. 14, 1902, and except for a short period has been a member ever since.

He is survived by a widow, a daughter and seven sons, two of whom are in U. S. Army.

MINUTES OF THE ONE HUNDRED FOURTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY.

Held at Barre October 11 and 12, 1917.

THURSDAY FORENOON

1. Call to order by President, C. H. Beecher.

2. Prayer, Rev. Edward Crossland. Let us look to God for his blessing. Our Father, we invoke thy blessing upon this one hundred fourth annual meeting. Lift upon us all the light of thy countenance and wilt thou speak to every heart thy word of peace. We are conscious that every good and perfect gift comes from thee. We thank thee for the degree of health and strength that we enjoy. We thank thee for the continual blessings which thou hast showered upon us. We pray that they will continue to be given us. Remember our city and those who are in authority, our state and Nation. Wilt thou bless him who is our President and every member of his cabinet. Grant, our Father, that the men who shall participate in this convention may be guided by thy wisdom. Lead them into all good truth; bless the homes they represent and the state of which they form a part. What we fail in asking do thou in thy omnipotence make up to us in the giving. We ask it through Jesus Christ our Lord. Amen.

3. Address of Welcome, Hon. E. C. Glysson.

President Beecher:—I take pleasure in introducing to you the Mayor of Barre, Hon. E. C. Glysson, who will give us the address of welcome.

Mr. Glysson:—Mr. President, ladies, members of the Vermont State Medical Society: Barre is unfortunate this year in having a mayor that cannot give you the talk at this convention that I feel you are justly entitled to and I feel a little the same as the story of a young surgeon who was about to perform, and did perform, his first operation, and of course, this being his first attempt on his own responsibility, he was more than anxious that the operation should be very successful. Everything ran along very nicely until the patient was coming out from under the influence of ether. The surgeon looking across the street saw a wooden building burst out in flames and he immediately ordered his assistant to close the window and draw the shade. The assistant, knowing that fresh air and daylight were very essential under these conditions, asked why he gave these instructions and the surgeon said, "I am afraid if the patient in his semi-conscious condition should see this smoke and flame he would feel that the operation was not as successful as it might be."

Barre certainly deems it an honor to have an organization like the Vermont State Medical Society make this city its meeting place for its convention in 1917 and in behalf of the people I welcome you heartily. We want to make this meeting one of the most pleasant, one of the most successful meetings that you have had, and if there is anything that I can do in behalf of the city, or personally, to make everything more pleasant, more profitable or successful to you I should be glad to do it that you may consider Barre in some of your future meetings. Mr. Chairman, I thank you.

President Beecher:—I am sure we appreciate the welcome that the mayor has given us and we will be very glad to accept of your cordiality.

4. Reading of Records, Secretary.

President Beecher:—The next on the program is the reading of the records by the Secretary. Since these have been printed and distributed by the Secretary the Chair will entertain a motion that they be accepted as printed.

Secretary Ricker:—I would like to say before the motion is presented that these records include the reports of all the committees except the Necrology Committee and in behalf of that committee I wish to say that they certainly did their part. They sent in their report the very first of any one, but it was mismailed. It was addressed to me at Barre instead of St. Johnsbury and was held in the office and did not reach St. Johnsbury until yesterday morning. I have the report and it will appear in one of our following issues of the journal.

It was voted that the records of the Secretary be accepted as printed.

5. Report of Committee of Arrangements was given by Dr. M. L. Chandler.

President Beecher:—Unless there is some objection the report will be received as given.

6. Reports of Officers, Committees and Delegates.

(a) The Secretary's Report.

President Beecher:—The Reports of the Secretary, the Treasurer, the Auditor, the Executive Committee, Publication Committee, Legislative Committee, Medical Education Committee, Medico-Legal Committee and Health and Public instruction Committee are all printed. The Chair will entertain a motion to accept these and refer them to the House of Delegates as printed. This body has no legislative function. The legislative function of the society is altogether in the House of Delegates. They meet this afternoon at five o'clock and since those reports are all printed and we can do nothing particular about it any way, we will save some time if someone will make such a motion.

Dr. Swift:—I move that the reports as printed be accepted and referred to the House of Delegates.

The motion was seconded by Dr. Stickney.

President Beecher:—It is moved and seconded that the reports as printed be accepted and referred to the House of Delegates. Those in favor of this motion please manifest it by saying aye; those opposed, no. It is a vote.

The report of the Necrology Committee is in the hands of the Secretary. Dr. Hanrahan is the Chairman of the Committee. I await your pleasure on this report.

Secretary Ricker:—It is a eulogy written on the death of Dr. Holton, Dr. W. H. Ranks, of Shelburne, and Dr. A. L. Bingham, of Williston.

President Beecher:—Those obituaries will be printed in the next number of the journal any way.

Dr. Swift:—I move that they be printed and accepted as printed. (The motion was seconded and carried.)

Report of the Councillors from the four Districts.

President Beecher:—Is there any report from the Councillors from the four district? Are any of the Councillors present?

(No report from the Councillors.)

Delegates to other societies.

Delegate to Connecticut River Valley Medical Association. Not present.

Delegate to Maine State Medical Society. Not present.

Delegate to New Hampshire Medical Society. Not present.

Delegate to Massachusetts Medical Society. Not present.

Delegate to Connecticut State Medical Society. Did not attend meeting.

Delegate to Rhode Island Medical Society. Not present.

Delegate to Medical Society of the State of New York. Not present.

7. Introduction of delegates from other societies.

President Beecher:—If any appear later the Chair will be very glad to introduce them to the Society.

The next number is the first of the scientific program.

8. Vice-President's Address.

"Anaemia," by Dr. C. W. Howard, Shorcham. (Paper read by Dr. Howard and paper delivered to the Secretary.)

9. Paper. "Manual Dilatation, Version and Delivery when the Progress of Accouchment is delayed from any cause, with a report of 250 cases." J. M. Hackett, Champlain, N. Y.

(Paper read and delivered to the Secretary.)

President Beecher:—Before we adjourn we will note that at least one of the delegates from other societies is present. Although he is now a member of the Vermont Society I take pleasure in introducing to you as a delegate from the New Hampshire Medical Society, Dr. E. O. Crossman, now of Burlington.

Dr. Crossman:—I am very glad to be here. I do not believe you want or expect a speech.

President Beecher:—Since the doctor is now a member of our society you will have an opportunity to hear him as he is on the program this afternoon.

Before we adjourn I want to call your attention to the fact that there is a register just outside the door and if you have not already registered please do so.

We will try and open the afternoon meeting promptly at two o'clock. Unless there is something further this meeting will stand adjourned until two o'clock this afternoon.

THURSDAY AFTERNOON

Vice-President Howard:—The first thing on the program is the President's address by C. H. Beecher.

1. President's address, C. H. Beecher.

President Beecher:—I wish to thank you for the election as President for the past year and I assure you I appreciated that honor. (President's address read by Dr. Beecher and delivered to Secretary.)

Vice-President:—The discussion of this paper is to be opened by Dr. Davidson. He is not present. The discussion was to be continued by Dr. Wells. He is not present. The paper is now open for general discussion. (No discussion.)

President Beecher resumes the Chair.

President Beecher:—The next on the program is the paper by Dr. Crossman.

2. Paper. "The Differential Diagnosis Between Acute Alcoholic Intoxication and Alcoholic Insanity."

(Paper read by Dr. Crossman and delivered to the Secretary.)

3. Paper. "Indigestion." Dr. A. L. Patch, Windsor.

(Paper read and delivered to the Secretary for publication.)

4. Paper. "Some Public Health Lessons of the War," Dr. C. S. Caverly.

(Paper read and delivered to the Secretary.)

President Beecher:—Before we adjourn there are a very few notices. The fixed session of the House of Delegates will meet immediately after adjournment in the smoking room. Dr. Lazelle will be the presiding officer.

There are some outlines of the financial condition of the Journal that will be distributed to the delegates. The delegates will find in the report of the officers and committees and order of business for the work of the House.

If you have not yet registered, please do so.

(*To be continued in December.*)

HEXAMETHYLENE TETRAMINE ("UROTROPIN") AS A FUEL

Frost, in a recent issue of the *Medical Record,* says there are many times when the physician needs a small, hot, sootless flame such as produced by an alcohol lamp, when he is out of reach of any such article. It is not generally known, I believe, that hexamethylene tetramine will give exactly this kind of flame when ignited. Two five-grain tablets such as are often carried in the physician's medicine case will give a clean flame of sufficient heat to boil 5 c. c. of water in a test-tube within 30 seconds, and of sufficient duration to keep it boiling for two minutes. For boiling needles or small instruments, sterilizing water for hypodermic injections, testing for albumin by the heat-and-acid method, and many other similar purposes, this "extemporaneous technic" may be found useful.

CARE OF FEET IN PREGNANCY

George Gellhorn (*Medical Record,* August 25, 1917) thinks that every woman who complains of painful feet in pregnancy should have them strapped at once and then have a suitable shoe made, and further have instituted exercises tending to strengthen the tibiales anticus and posticus and the plantar muscles. These exercises should be resumed the first day of the puerperium. Flat feet which begin in pregnancy and may last through life may be avoided by these simple precautions.

MERITS OF MEDICAL AND OF SURGICAL TREATMENT IN PEPTIC ULCER.

J. N. Hall (*Medical Record,* September 1, 1917) considers that there are advantages and disadvantages pertaining to both modes of treatment, and in any given case a decision can be reached only after a careful consideration of these factors. The advantages of medical treatment are avoidance of immediate operative and anesthetic dangers; avoidance of the vicious circle, later jejunal ulcer, adhesions, ventral hernia, etc.; the ability of the patient to remain at work during treatment. The advantages of the surgical method are the valuable knowledge of the exact nature of what is being treated; the chance of finding early and curable cancer of the stomach, gallbladder disease, or Lane's kink; avoidance of perforation; the decisiveness and rapidity of cure.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

William Gray Ricker, M.D., St. Johnsbury, Chairman.
A. Stuart M. Chisholm, M.D., Bennington.
Edward Homer Martin, M.D., Middlebury.

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James Madison Hamilton, M.D., Rutland, Business Manager.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton, other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Editorials

THE WAR

It is at last time for us to look squarely in the face the facts of the war that stand out prominently and to disabuse our minds of the easy-going hope that right must immediately prevail and that before a world in arms Germany must succumb. We have never for a moment believed that the Central Empires were on the verge of starvation. Luxuries have of course been largely given up but that there has been and still is sufficient food to meet the necessary demands must by this time be manifest to all. Satisfaction is freely expressed over the news that their 1917 harvests have been somewhat under the average; that their financial situation is by no means without the menace of failure; that the morale of their troops on the western front has been seriously impaired; that the Kaiser has called out his last reserves and that the presence of boys and old men in their armies indicates the final effort of their arms.

It is more nearly true that the German armies were never at a higher pitch of excellence than now and Germany has shown by her present attack on Italy how far from demoralization are her armies. She has up to the present time been victorious on all fronts. In the north of France, Haig and Petain have been nibbling at a stone wall, while elsewhere Germany has been gorging herself with the richest provinces and states of Europe. Each year has ended with a conspicuous victory. Belgium in 1914, Serbia in 1915, Poland, Roumania, the Dobrudza in 1916, and now at the end of this year we are witnessing the invincible onset of German-Austrian armies in Italy. These are definite achievements of immense importance. The value of Belgium to Germany is very evident, furnishing, as it does, among other things, the necessary submarine and Zeppelin bases for attack on England; the Dobrudza gives her undisputed control of the Danube, Riga makes her hold on the Baltic a firm one and if Venice falls, as fall it must, she

will have attained entire control of the Adriatic. Austria will thus have reconquered in 1917 the Venetian provinces which were hers until 1866, and the fertile plains of Lombardy which she lost in 1859. Doubtless she has no intention of advancing beyond the Po.

If we had entered the war after the sinking of the Lusitania the present condition of Europe would be doubtless very different from what it is. At present we are not half awake to the true facts. Germany, having acquired all the objects for which she stirred up the war, is anxious to put an end to it without further loss of men and money. Her offers of peace having been rightly rejected a year ago, she has since then succeeded in withdrawing Russia from the number of her active enemies. Russia was a present menace, the United States but a contingent one. Russia has been withdrawn from the field and we are not yet ready to enter it. Two years were required for England to prepare an army and send it across the channel. We may succeed by spring in having a million men in France, but in the meantime Russia is gone and Germany is dealing staggering blows at Italy's heart.

All this means that America must be prepared to do the work of those allies who have fallen by the way. Unless the world is compelled to sign a German peace we must expect to have 5,000,000 men under arms in Europe this coming year. That means that 35,000 physicians now in civil practice must enter the service of the United States Government. That is more than one in every five doctors in the country. England in 1914 had 30,000 practitioners of medicine in civil life and 10,000 of them have entered the army medical service. The demand for doctors for the army has been oversubscribed as was expected, The U. S. Navy has 1700 medical men enrolled in its branch of the service, which number is several hundred in excess of its present needs. But these extra hundreds will be needed and both the naval and the military demands will grow as the numbers of men enlisted approach the ultimate figures.

It is time that all optimistic illusions be dispelled from our minds. We have fed ourselves on false hopes very much in the fatuous manner of the unspeakable Mr. Wilkins Macawber. Let us at length begin to realize that the future holds for us the bitterness of supreme failure unless we enter sternly on the duties that confront us and face the menace manfully.

DEVICES FOR MELTING PARAFFIN FOR BURNS

Torald Sollmann (*Journal A. M. A.*, June 23, 1917) finds that an ordinary pint size electrical "food warmer" for heating nursing bottles is a convenient device for melting paraffin. If filled one-half to two-thirds full of paraffin it will melt it in three minutes and if the current is shut off the temperature will be just right for application after two minutes and it will stay so for ten minutes. Even better is an ordinary double glue pot. The outer pot should be two-thirds filled with sodium acetate, which melts at 58° C. and retains about that temperature for three hours under the conditions mentioned. This "acetate thermostat" is specially valuable in shops and elsewhere where large numbers of men have to be cared for in a short space of time. It is cheap and requires no attention.

From the County Medical Societies

BURLINGTON AND CHITTENDEN CLINICAL SOCIETY

A meeting of the Burlington and Chittenden Clinical Society was held at the College of Medicine Sept. 27th, with 35 members and visitors present.

Minutes of preceding meeting read and approved.

The Secretary's report was read, which showed a membership of 69 members in good standing. There were six meetings during the preceding year with an average attendance of 31.

The Treasurer's report showed a balance of $170.99 cash on hand with all outstanding bills paid. The accounts audited and approved by G. M. Sabin, member of the Executive Committee; reports accepted.

The names of E. S. Towne and Barnet Frank were proposed for membership. Dr. C. N. Perkins was elected to membership.

The officers elected for the ensuing year were: President, F. W. Sears; Vice-President, C. K. Johnson; Secretary and Treasurer, J. A. Hunter; Executive Committee, E. S. Towne, C. A. Pease, T. E. Hayes; Delegates to the State Society for one year, J. A. Archambault, David Marvin, T. J. Arnold, E. H. Buttles; Alternates, H. A. Ladd, C. K. Johnson, R. L. Maynard, G. O. Coutu; Delegates for two years, B. H. Stone, O. N. Eastman, J. B. Wheeler; Alternates, F. W. Sears, B. D. Adams, Lyman Allen.

A paper on Pneumonia and its Serum Theurapy was read by the president, Dr. E. H. Buttles. Paper discussed by C. H. Beecher, and generally by members. An invitation was extended to the Officers of the Reserve Corps of Medicine stationed at Fort Ethan Allen to attend the State Meeting to be held at Barre, Vt., Oct. 11 and 12, 1917. Refreshments were served.

RUTLAND COUNTY NOTES

About thirty members of the Rutland County Medical and Surgical Society attended the quarterly meeting held at the Vermont Sanatorium, Pittsford, Tuesday, October 16, 1917. Dr. J. H. Carty of Fair Haven and Dr. E. V. Farrell of Danby were elected to membership. Dr. E. J. Rogers, Medical Director of the Sanatorium, gave a clinic on the diagnosis of tuberculosis and presented several cases for examination. Dr. James M. Hamilton of Rutland read a report on the physical examination of 900 men for military service. The members were entertained at luncheon by Dr. Rogers, after which an opportunity was given to inspect the institution and its equipment. It is probable that the October meetings will be held at the Sanatorium in the future in order to keep abreast with the newer methods in diagnosis and treatment of tuberculosis.

The Rutland Clinical Club elected the following officers at a meeting held at the Rutland Hospital September 25th: President, Dr. Charles A. Gale; Vice-President, Dr. James M. Hamilton; Secretary-Treasurer, Dr. F. H. Gebhardt. Interesting cases will be presented by the members. The balance of the program for the meetings will consist of the reading of case reports from the Massachusetts General Hospital with diagnosis and discussion by the members.

CALEDONIA COUNTY MEDICAL SOCIETY

A meeting of the Caledonia County Medical Society was held at the Avenue house, St. Johnsbury, Vt., Tuesday evening, October 30th; President David R. Brown presided.

A brief report of the State Meeting and the actions of the House of Delegates was given by the State Secretary. Dr. Farmer gave a resume of correspondence which he had had with the Council of National Defense in Washington, with a view of enlisting men for the medical service during the war. A very lively and general discussion followed. Several men expressed their willingness to serve.

Dr. Ricker showed a nasal specimen recently removed, and the meeting adjourned.

News Notes

Dr. Hugh H. Hanrahan, son of Dr. John D. Hanrahan of Rutland, and a graduate of the University of Vermont, and Miss Mary P. Roddy, a graduate nurse of the Rutland hospital, were married at St. Peter's Church, Rutland, Monday morning, October 29. The ceremony was performed by the Rev. A. C. Griffin of Wallingford, stepbrother of the groom. Dr. Hanrahan studied at St. Lawrence University after leaving the college at Burlington and studied a year in New York hospitals before beginning practice in Rutland a year ago.

Dr. William Stickney of Rutland, who is serving as chief of the surgical department at Camp Upton, Yaphank, L. I., has received a commission as captain. Dr. Stickney entered the Medical Reserve Corps service as a lieutenant a short time ago.

Dr. Chester C. Waller, formerly in practice at North Troy and Lyndonville, but for the past few years in Warren, Ohio, is now in charge of the regimental infirmary of the 301st Infantry, or "Boston's Own," as it is termed, and is stationed at Camp Devens, Ayer, Mass. He has the rank of captain.

Progress in Medical Science

BONY TUMORS

Tumors of the skeletal tissues are more frequent than usually supposed. This fact has been emphasized more by the Roentgen ray than by any other previous means of diagnosis. In fact, this is the only direct method of differentiation. Nor is this method infallible, for it often happens that confirmatory evidence is necessary. The history of onset of the bony lesion is of prime importance, as frequently this is the deciding factor. This is evident from the fact that several conditions during different stages of the disease manifest roentgenographically almost identical appearances.

In general, bony tumors may be divided into two classes: sub-acute infective

and malignant processes. Either one of these processes may add to or eat away the bony frame work. They may also either rarify or increase the density of bony tissues. They all produce, however, one or another type of tumifaction either of the shaft or the extremity. Subjectively, symptoms may be quite similar, though objectively they are radically dissimilar. For these reasons, it is absolutely necessary to interpret an X-ray plate only in the light of an associated clinical history.

The acute infective processes should not be considered in this study as there is no pronounced tumifaction and roentgenologically there is no evidence of a bony lesion unless examined very late in the disease process.

Classification

Sub-acute inflammatory osseous tumors
- Osteitis fibrosis cystica
- Osteoma
- Tuberculoma
- Syphiloma

Malignant osseous tumors
- Sarcoma
- Carcinoma

Osteitis fibrosis cystica is characterized roentgenologically by multiple well defined cysts occurring in the shaft or ends of bones. There may be only two or three but usually there are a dozen or more at each focus of involvement and these foci may be quite numerous. First one bone, then another, shows involvement or several at any given time if carefully examined roentgenologically. The cystic condition is well defined as the several cysts have a definite wall, giving a characteristic shadow on the X-ray plate. Tumifaction is the principal symptom which calls for a differential diagnosis. Pain has not been pronounced or mobility seriously impaired, except in a few late cases wherein a spontaneous fracture has occurred. When such a condition exists there is then the necessity of a careful X-ray examination being made to exclude a central giant celled sarcoma. This type of sarcoma is also prone to spontaneous fracture. Such an examination is absolutely necessary as the treatment is so radically different. In the former condition the affected limb can usually be repaired by bone grafts, while in the latter the only treatment of choice is radical removal. The history of onset is quite different in each. In osteitis fibrosis cystica there has been a rather definite preliminary history of an acute infective process in some parts of the body. There is a latent time period of development usually without incident. Tumifaction is about the first definite symptom manifested except perhaps for a few "rheumatic pains." Care should be taken that this latent time period should not be confused with a similar one in sarcoma. The difference exists in the fact that one is ushered in by an infection, while the other, sarcoma, with a definite history of an injury. Occasionally a differential diagnosis is necessary between this condition and a metastic carcinoma. There is usually no difficulty, however, in making it, as there is a definite previous history of a malignancy either in the breast, stomach, prostate, cervix, etc. Though the primary focus may have escaped detection prior to bony involvement, it is then that a roentgenogram becomes of prime importance. Again the former occur in otherwise well individuals, while the latter occur only in well advanced cases of the disease.

An osteoma is a bony addition to the

sides of bones usually at or near the ends. It is always an addition, or evation tissue, of the same density as the structure from which it arises. This is produced by a sub-acute inflammatory process as the result of chronic irritation. In some instances this irritating influence may be of a hereditary syphilitic nature and then the differential diagnosis becomes more difficult. In such a case, a history and a Wasserman examination test assist materially, in fact this may be the only means of making an accurate diagnosis. Otherwise this condition is readily differentiated from all the other bony tumors by means of the roentgenogram. A myositis ossificans should not be confused with an osteoma, as the calcium salt tumifaction is only found infiltrating muscular tissues, and so it is quite separate from the bony frame work.

Osseous tuberculoma is first manifest roentgenologically by an increase of the bony texture about the focus of infection. Later in the disease this gives way to an osteo-porosis, the result of pressure necrosis. This is quite characteristic, though it may simulate quite the same condition found in a syphilitic bony lesion, with this exception that the tubercular process almost invariably involves the epiphyseal ends, while the syphilitic process as frequently involves the shaft of the bone. This condition also has to be differentiated from a sarcoma and usually rests largely upon a carefully taken history. In the tubercular process, injury is frequently attributed as an immediate cause of the disease, while in reality it only brings to notice the otherwise insidious onset. This is in contradistinction to the latent time period always obtainable in a sarcoma, which is invariably caused by a trauma, more or less recent. There is invariably in a sarcoma an outgrowth of bony tissues, "smoke shadows;" into the soft parts, while the tubercular process simply rarifies the bony enlargement as the result of the inflammatory process incident to the initial infection. An osseous syphiloma is perhaps more frequently found to simulate, more than any other one process, conditions existing in different stages of the various bony diseases. They are prone to especially simulate a central sarcoma, and the troublesome situation here is in the fact that the Wasserman is frequently found wanting. Accordingly, the history and response to anti-syphilitic treatment is all that acts as a guide. The latter is probably the best diagnostic agent yet devised and is of the uttermost value except for time consumed in obtaining the reaction. There is little doubt but that all questionable lesions should be subjected to anti-syphilitic treatment before amputation. An early amputation is known to be eminently necessary in all sarcomata. Such a procedure has frequently saved a leg otherwise to have been sacrificed. Syphilitic lesions, however, frequently manifest themselves first by a periosteal thickening, to be followed by a cortical thickening, and later by a medullary infiltration which gives to a roentgenogram a lack of differentiation between these structures which is so characteristic in the normal. It is when this process continues to the stage of a varied gummatous degeneration that the roentgenogram simulates that of an early osteo-porosis due to a central sarcoma. The gummatous areas appear less dense than the remaining portions of the bony tissues giving it the appearance of a sarcomatous nature. Such conditions have been therapeuti-

cally treated by deep roentgen irridiation very satisfactorily when such treatment was being given for a supposed sarcoma, which later proved to be syphilitic. Differentiation from a metastatic carcinoma is usually readily effected as the bone is not so much enlarged in the latter condition as it is "eaten out" by the osteoclastic process incident to the malignant invasion. There is also obtainable definite evidence of a primary focus if looked for, providing not already manifested. The specific lesion is usually present in an otherwise quite normal individual while the metastatic process is found only in advanced cases of carcinomata; especially is this true when the bones become so involved as to raise a question of differential diagnosis.

An osteo-sarcoma or an osteo-chondrosarcoma is essentially the same process, the name of the condition only varies with the preponderance of one or another of the specially differentiated tissues. A sarcoma may be either central or peripherial depending upon whether the medullary, cortical or periosteal tissues are first involved. Such an involvement largely depends upon whether the initial trauma injured one or the other of these structures. The nature of the trauma also acts as an influencing factor as to the cellular characteristic of the developing sarcoma, which cellular characteristics predetermine the malignancy of the invasion. The large celled centrally located sarcoma is less prone to metastasis than any other form, though this has been known to metastasize to the extent of the patient's first having lost a finger, then a leg, then the first involved upper extremity at the elbow, later lost the other leg, and ultimately lost the first affected arm at the shoulder. This patient finally made a recovery of at least three years duration without further manifestations. He is now able to be about upon two false legs, working daily as a clerk, and apparently quite happy. Peripherial small-round and spindle-celled periosteal sarcomata do their work much more hastily and fatally, such a case not lasting years in duration as an average. These later conditions make themselves early manifest as they readily produce an infiltration of the adjacent soft parts with more or less pain. However early seen, little can be done other than make a diagnosis. No matter what treatment instituted, the large majority progress rapidly to a fatal termination. Exceptions may prove the rule but the added life is usually less desirable than an earlier death.

Little in addition can or need be said relative to metastatic bony carcinomata as it has already spelled the patient's doom in the previous considerations of a differential diagnosis. It is interesting roentgenologically and of clinical use to know that the severe backache and pelvic pain incident to a pelvic invasion is invariably due to early bony metastasis of the lumbar and sacral vertebrae, and not so much to nerve pressure as formerly understood and taught. If treatment is directed to the relief of the incident of such a bony metastasis, greater benefit is derived.

C. F. B.

TUBERCULOSIS NOTES

Comparable with Pottenger's muscle spasm test for tuberculosis and the findings of Loeper and Codet (Reaction to Pinching of Muscle over Pleuropulmonary Tuberculous Lesion—*Progrès Medical,* Paris). Upon pinching the trape-

zius a varying reaction is obtained but in health it is always the same on the two sides of the body. If it is more on one side of the body than the other the muscle on that side is irritated from some cause. In a series of 300 cases the myotonic reaction, as they call it, was increased on the side of active pleuropulmonary disease. Its dependency on involvement of the pleura or pulmonary parachyma may be inferred from the fact that the reaction was increased by apical infiltration or congestion, but was made less by pleurisy without effusion. Fibroid and inactive lesions are not accompanied by an increased myotonia. They found this reaction useful in locating a pulmonary lesion, in estimating the degree of its activity and also the distance of the lesion from the surface of the lung.

The following abstract of an article on Tuberculosis on Virgin Soil by H. T. Marrable, *Dublin Jr. of Med. Science,* July 17, appeared in the *Jr. of A. M. A.* for Aug. 25, 1917:

47. *Tuberculosis on Virgin Soil.*—Up to 1900, pulmonary tuberculosis was unknown in Central Persia, a plateau varying from 4,000 to 6,000 feet. About the year 1900 it appeared among the Armenians of Julfa, a village two miles from Ispahan, being introduced into that community by an Armenian merchant who had lived in India. Two years later it appeared among the Mohammedans in the town of Ispahan. Between the years 1900 and 1908 over 100 cases were seen and treated in Ispahan. Two facts stand out with regard to these cases: first, the rapidity of the disease; rarely did it last more than six months; never more than one year; secondly, the mortality: all died. In 1908 treatment with tuberculin was commenced. Up to the end of 1914 close on 500 patients had been treated by this method. The average time occupied by the treatment was six months. The preparations used were tuberculin bouillon filtrate bovine (P. T. O.), old tuberculin bovine (P. T.) and old tuberculin human (T.). The first dose administered was rarely larger than 0.0001 c. c., P. T. O., and this was increased until the patient was able to tolerate 1 c. c. T. The treatment was then stopped; test injections of 0.5 c. c. and 1 c. c. T. being given once every three months for the first year, and once every six months for the next two years. If at the end of three years no reaction had taken place, the case was considered cured; if reactions occurred, a second and sometimes a third shortened course of treatment was given. Forty per cent. were alive and well three years after the last reaction to a large dose of tuberculin. In 20 per cent. of the cases the treatment was found unsuitable, and discontinued; the remainder of cases were lost sight of. Previous methods of treatment had proved a complete failure, and in consequence tuberculin was tried in cases which could not be considered favorable, such as mixed infection; hence, the results are encouraging.

A very fine article on "The Diagnosis of Tuberculous Laryngitis," by Julius Dworetzky, appears in the *Jr. of A. M. A.* for Aug. 25, 1917. It presents some very instructive illustrations. One of the best is an illustration of Lupus of the larynx. In lupus of the larynx ulceration and destruction go on with few or no symptoms to a far greater degree than occurs in other forms of tuberculous laryngitis. The conclusions reached are as follows:

1. The early diagnosis of laryngeal tuberculosis is of considerable importance.

2. Since tuberculosis of the larynx is almost always secondary to pulmonary tuberculosis the determination of pulmonary tuberculosis is of value in the diagnosis of laryngeal tuberculosis.

3. The frequency with which a part of the larynx was found to be affected was in direct proportion to the amount of trauma that part received as a result of its location and functional activity. The parts were affected in the following order of frequency: interarytenoid space, vocal processes, arytenoids, vocal cords, epiglottis, ventricular bands and aryepiglotidian folds.

4. Dysphagia, dysphonia and aphonia are rare in early cases, and much less common in late cases than generally supposed.

5. Many cases of bronchiectasis, lung abscess and accessory sinusitis present a laryngeal picture similar to tuberculosis, and to avoid confusion a thorough study of each case is essential.

6. Through the co-operation of the family or clinic physician, the laryngologist and the sanatorium physician, no case of laryngeal tuberculosis should ever escape our attention.

A. H. Freiberg finds exposure to the sun's rays to be very useful in bone tuberculosis. The entire body should be exposed and if possible protected places should be provided where this exposure may be carried on in the winter, as cessation of the treatment is often followed by renewed progress of the disease. He has not found the so-called Alpine sun lamp (a quartz ultra-violet light) to be in any way an equivalent to sunshine.

"To What Extent Have Sun's Rays an Influence in Treatment of Bone and Joint Tuberculosis." *Am. Jr. Orthop. Surg.*, Sept., 1917.

In spite of Craig's belief that we have in the complement fixation test the best guide to the activity of tuberculosis in any given case the Health Department of New York City has undertaken extensive work to determine this point. The present consensus of opinion regarding this test seems to be that it is practically as reliable in tuberculosis as is the Wasserman test in syphilis. The conclusions of various workers are as follows:

"Complement-binding antibodies are present in the blood serum of both active and clinically inactive pulmonary tuberculosis cases."

"In surgical cases before there is an appreciable lesion, the complement fixation test is usually negative; but in those cases with an appreciable lesion with lack of symptoms pathognomonic of the disease, the complement fixation test for tuberculosis is of great diagnostic value."

"Normal serum will give a negative reaction."

"Serum from a syphilitic will give a negative reaction unless there is a coincident tuberculosis infection."

"Serums from patients suffering from other diseases will give negative reactions with the tuberculosis antigen."

Weekly Bul. Dpt. Health N. Y. City, Apr. 14, 1917.

H. S. G.

From the Council of Pharmacy and Chemistry

During October the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

General Laboratories:
Arsenobenzol (Dermatological Research Laboratories, Philadelphia Polyclinic.)

John T. Milliken & Co.:
Acetylsalicylic Acid Capsules—Milliken.
Acetylsalicylic Acid Tablets—Milliken.

Monsanto Chemical Works:
Acetylsalicylic Acid (Aspirin), Monsanto.

Scharing and Glatz:
Atophan, S. & G.

E. R. Squibb and Sons:
Silver Protein—Squibb

Standard Oil Company of Ind.:
Stanolind Surgical Wax.

NEW AND NONOFFICIAL REMEDIES

Halazone-Abbott. — Parasulphonedichloramidobenzoic acid. It is said to act like chlorine and to have the advantage of being stable in solid form. In the presence of alkali carbonate, borat and phosphate it is reported that halazone in the proportion of from 1:200,000 to 1:500,000 sterilizes polluted water. Halazone is used for the sterilization of water in the form of Halazone tablets, each containing 0.004 Gm. halazone mixed with sodium carbonate and sodium chloride. The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Oct. 6, 1917, p. 1166).

Camiofen Ointment.—An ointment obtained by mixing iocamfen (a liquid obtained by the interaction of iodin 10, phenol 20 and camphor 70 parts) with an equal weight of a lard-wax-oil of theobroma base, but containing nearly all of its iodin in the combined form. It has the properties of fatty iodin compounds, phenol and camphor, and is used in skin diseases. Schering and Glatz, New York (*Jour. A. M. A.*, Oct. 20, 1917, p. 1343).

PROPAGANDA FOR REFORM

Some Misbranded Nostrums.—The following nostrums have been the subject of prosecution by the federal government under the Food and Drugs Act: DeWitt's Eclectic Cure, containing alcohol, opium and ether. DeWitt's Liver, Blood and Kidney Cure, essentially a water-alcohol solution bearing a cathartic drug, together with Epsom salt, nitrates and iodids. Lightning Hot Drops, containing 60 per cent. alcohol and 48 drops of chloroform to the ounce, as well as ether and capsicum. Mother's Salve Mother's Remedy, a salve consisting of petrolatum with some glycerin, potassium chlorate and oils of cloves, cinnamon, eucalyptus, sassafras and pine or juniper. Raney's Blood Remedy, a solution of potassium iodid and mercuric chloride in syrup of sersaparilla with 16 per cent. alcohol. Rattlesnake Oil Liniment, White Eagle Indian Rattlesnake Oil Liniment, containing little or no "rattlesnake oil." Rosadalis, essentially a water-alcohol solution containing potassium iodid and a cathartic drug (*Jour. A. M. A.*, Oct. 6, 1917, p. 1192).

Ziratol.—The Council on Pharmacy and Chemistry reports Ziratol, sold by the Bristol-Myers Company, New York, ineligible to New and Nonofficial Remedies (1) because its composition is secret; (2) because the phenol coefficient is not stated on the label; (3) because its use by the public as a "vaginal douche" is advised, and (4) because the claim that Ziratol is the "Universal disinfectant" is unwarranted. The A. M. A. Chemical Laboratory reported that the preparation is a soap solution containing alpha-naphthol as its essential constituent (*Jour. A. M. A.*, Oct. 6, 1917, p. 1191).

Gonosan.—The Council on Pharmacy and Chemistry reports that Gonosan, sold by Riedel and Co., Inc., is in the form of capsules said to contain oil of sandalwood and kava resin advertised for the treatment of gonorrhea (as indicated by the name). It declared Gonosan inadmissible to New and Nonofficial Remedies because the therapeutic claims are exaggerated; because there is no evidence that the combination of kava resin with oil of santal is superior to oil of santal alone, and because the therapeutically suggestive name is conducive to indiscriminate and unwarranted use of the combination both by the profession and

by the public (*Jour. A. M. A.*, Oct. 13, 1917, p. 1287).

Alcresta Ipecac.—This preparation of ipecac was admitted to New and Nonofficial Remedies in 1915. Recently claims have been advanced for this preparation which were not contemplated at the time of its acceptance and which appeared improbable and unwarranted in the light of the known properties of ipecac. The Council on Pharmacy and Chemistry brought these extravagant claims to the attention of Eli Lilly and Co., the proprietors of Alcresta Ipecac. As Lilly and Co. would neither discontinue nor modify these claims and did not submit any evidence to warrant them, the Council announces that it has been obliged to delete this proprietary from New and Nonofficial Remedies (*Jour. A. M. A.*, Oct. 20 1917, p. 1373).

Hepatico Tablets.—The Council on Pharmacy and Chemistry reports that Hepatico Tablets (David Laboratories, Inc.) are claimed to "contain a combination of bile salts, pepsin, pancreation, ext. nux vomica and cascara", and that in their exploitation the same therapeutic nonsense is made use of as that used in connection with two preparations of similar claimed composition, namely, Veracolate and Taurocol, previously reported on by the Council. The Council declares the therapeutic claims made for Hepatico Tablets unwarranted, the name objectionable and the combination of ingredients irrational (*Jour. A. M. A.*, Oct. 20, 1917, p. 1374).

Some Misbranded Nostrums.—The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act: Sherman's Compound Prickly Ash Bitters, containing 20 per cent. alcohol, buchu and an emodin bearing drug. "Thorn's Compound Extract of Copaiba and Sarsaparilla," a mixture of copaiba and sarsaparilla extract. Tarrant's Compound Extract of Cubebs and Copaiba", a mixture of copaiba and cubeb extract. V. I. G., and aqueous solution of glycerin, morphin, berberin, hydrastin and salicylic acid (*Jour. A. M. A.*, Oct. 20, 1917, p. 1374).

The Active Principle of the Hypophysis. Despite the suggestion obtained from certain advertising claims, the active principle of the pituitary gland has not been isolated in a pure state. An examination of commercial preparations showed that propeoses and possibly peptones were present in all (*Jour. A. M. A.*, Oct. 27, 1917, p. 1431).

Haines' Golden Treatment.—This is sold by the Golden Specific Co., Cincinnati, O., as a cure for the liquor habit which may be adadministered without the knowledge of the patient. The directions which accompany the three dollar package imply, however, doubt as to the probability of success unless the patient is anxious to be cured of the habit and takes the powders knowingly. The A. M. A. Chemical Laboratory reports that this worthless nostrum consists of powders which are composed essentially of milk, sugar, starch, capsicum and a minute amount of ipecac. (*Jour. A. M. A.*, Oct. 27, 1917, p. 1460).

CAUSE AND TREATMENT OF CONSTIPATION IN INFANTS AND YOUNG CHILDREN.

BY C. G. GRULEE

In discussing this subject in the *International Clinics* Grulee summarizes his views as follows: "I would like to urge that catharsis be abandoned as a routine treatment; to ask that the simple rules of diet be insisted upon, and that when these are not sufficiently effective such mechanical factors as glycerin suppositories and paraffin oil be resorted to and that only in extreme cases of acute constipation a cathartic be used."

CAUSE OF "MILKEY" SEROUS EFFUSION OF VERY LOW SPECIFIC GRAVITY.

BY WEBER AND SCHMIDT

These authors have previously reported on the occurrences of a milky effusion in a case of syphilitic nephritis. In the present article in the *International Clinics* they present several additional instances of this unusual condition occurring in non-syphilitic subjects. In addition to the milky appearance of the fluid it has a very low specific gravity, being very little above that of water.

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THE RESTORATION TO FAVOR OF CREOSOTE

Creosote has been employed by physicians with varying success for many years in the treatment of bronchitis, especially the bronchitis of pulmonary tuberculosis.

Unfortunately, because of its disagreeable odor and taste, because it caused gastric irritation and distress, nausea and even vomiting, most clinicians were forced to abandon its use. For these reasons creosote is now rarely prescribed. It has fallen into disuse, even though it is admitted that it is possessed of therapeutic value.

A New Creosote Product.

Calcreose (a chemical combination of calcium and creosote, containing 50% creosote) very largely overcomes the objections to creosote.

Like creosote, Calcreose will allay cough, lessen expectoration and lower the temperature.

Like creosote, Calcreose improves digestion and nutrition through intestinal antisepsis and stimulation.

Like creosote, Calcreose is a stimulating expectorant.

Calcreose is not a germicide, but it checks bacterial activity, checks putrefaction, lessens the productions of toxines—hence reduces the toxemia always associated with intestinal infections.

Like creosote, Calcreose is possessed of all these good qualities but, unlike creosote, Calcreose is practically devoid of all objectionable features.

In other words, Calcreose is an agreeable form of creosote medication, and when given in small doses at first, gradually raised to tolerance, it is free from any untoward effects. As high as 120 grains of Calcreose have been given daily without digestive disturbance.

Comparatively Inexpensive

Unlike many creosote compounds, Calcreose is comparatively inexpensive. A thousand 4-grain tablets cost the physician or druggist only $3.00.

Calcreose is made by The Maltbie Chemical Company, Newark, New Jersey, and is advertised elsewhere in this issue of the Journal.

HENRY DWIGHT HOLTON, A. M., M. D.
1838—1917
FOUNDER OF THE HENRY D. HOLTON TRUST FUND

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Original Papers

PHYSICAL EXAMINATION OF DRAFTED MEN

Jas. M. Hamilton, A.B., M.D.

Read at meeting of Rutland County Medical and Surgical Society, October 16, 1917.

I have no formal paper to offer at this time, but present a few facts and conclusions that may be of some interest.

Whatever is said about examinations in this Division, I believe, will apply equally to any of the four thousand and more throughout the United States.

Just so long as armies have been mustered the individual soldiers have been selected with greater or less attention to their physical fitness.

One hears often now the query, "Why select the most perfect and send only them away, and let the debauched and defective remain in safety? The alcoholic and the cripple make equally good targets."

If the soldier's full duty were to go direct to the battle and enter into a mortal combat, this argument might be good, but in our Civil War many a soldier served faithfully and well for the full four years and never was in a single battle.

The intensive training lasting over a period of months that makes a man fit for the few days or even few hours of actual fighting often breaks men that are not entirely qualified physically, and the man with flat feet has long been in the discard before his comrades have smelled the enemy's powder; while the man with the previously unrecognized hernia is occupying the bed that should have been reserved for the wounded.

As has often been said, the speed of an army is that of the slowest marcher, equally true is it that the usefulness of a regiment is measured by the physical fitness of the individual soldier.

If an army were being created to remove undesirables from the land, these physical examinations should be abolished or reversed; the alcoholic and syphilitic should be accepted and the ranks placed at the disposal of the courts for the reception and detention of those with either an alternative or direct sentence to the army for their reformation or removal.

Armies are not raised for such a purpose, but to defend the land against all hostile comers, even if it is advisable to go the whole distance to meet them before they have an opportunity to invade our shores.

For such a purpose the best men must be selected, men who give promise of improvement under training and discipline, men whose bodies, minds and characters are such that they can be brought by experienced officers to such a high state of mental, moral and physi-

cal fitness that they will quit themselves like men in the few short hours of battle that are the climax of their service, as well as in the long and tedious days of training and camp waiting that try the mettle of soldiers even more than do the periods when they are called upon to do heroic deeds.

Under the volunteer system the examinations were of a much different type from those of the new National Army. Volunteers had made up their minds to enlist and it was a cruel examiner that found their defects, so adroitly concealed.

The Medical Examination of today is new in Military Medical History; during the Civil War when the draft was resorted to, the country was in desperate need of soldiers and the standard was much lower; today we are raising an army to enter into hostile competition with the forces of the most efficient military system the world has ever seen, and also into friendly competition with the wonderfully trained and tried soldiers of our Allies.

We require as good an army as our own experience and that of all the experts of our allies can devise: the war department has had the constant counsel of all these veterans and the progress that this Democracy has made in its six months of war is simply beyond comprehension.

So the sole purpose of these physical examinations is to select men fitted for the great responsibilities to be placed upon them and to reject those whom we believe would not be able to measure up to the new standard of efficiency.

The President, under the Selective Draft Act of May 18th, 1917, has prescribed a rough standard, but the judgment and integrity of the Medical Examiner is the main dependence of the nation in the selection.

When the drafted man responds to his call for examination he dictates the filling in of his statement as to the interference of his health or habits with his success in civil life, and answers the questions as to whether he considers himself sound and well and whether or not he has been under treatment in a hospital or asylum.

He further certifies that he has been fully informed that making any false statement regarding his fitness for military service renders him liable to punishment by imprisonment. Some time might be spent interestingly in reviewing these statements. Men claimed disabilities that were intended to touch the heart of stone. I have heard of no prosecutions, for all medical men know that if their private patients had all the diseases they sometimes claim, there would be no well to care for the sick.

But in many instances these statements were of great value as time savers.

In our Division we were required to furnish a quota of 150 men and directed to call 200% of that number for examination. The examinations were to be made on three consecutive days, which gave us 100 a day. We were directed to elect one additional examiner, and the second additional examiner if the number to be examined in a day was more than 80 and less than 120.

This gave the right to elect two and we had three examiners to go over 100 men a day. A good friend of mine who is Major and Surgeon of a New England Volunteer Regiment, said that, if we attempted to do this, we would lose 20% of the men sent to Camp Devens. His experience had come from the examination of volunteers who had passed the

scrutiny of the Recruiting Officer and often the preliminary examination of the more or less experienced civilian examiners at the home stations of the companies of his regiment.

These recruits had set their minds on passing and it was the fault of their bodies and not of their wits if they failed to qualify.

The defects of these men must be searched for, but it is not so under the draft. Men come for examination that have been selected by lot and the athlete and the bed-ridden cripple are equally liable to call.

About 12 minutes was allowed for the examination of each man, but when a man presented himself holding out the stump of an arm or with his clothes just sufficiently removed to exhibit a big hernia, his examination was soon completed and the remainder of his 12 minutes was available for the more minute examination of the border case.

Form 14, the Physical Examination Blank, contains 13 questions: 1, Height; 2, Weight; 3, Girth of Chest; 4, General examination (head, chest, abdomen and extremities); 5, Nose and throat; 6, Heart; 7, Genito-urinary organs; 8, Hernia; 9, Hemorrhoids; 10, Flat feet and other deformities of feet; 11, Eyes; 12, Ears; 13, Teeth; and a space for Remarks.

This blank was seldom completely filled for a rejected man. Our business was to reject as soon as we were convinced that the conscript was unfit for service and to pass on to the next one.

Had they been so instructed the examiners of the local boards could have compiled much valuable information regarding the physical condition of the men of draft age, but they were not expected to continue the examination beyond the point of securing sufficient data on which to base an acceptance or rejection.

When a man had certified to the existence of a cataract, that was examined for and if found the fact was noted on his form 14 and the man rejected. Perhaps he might be tuberculous or syphilitic or the harborer of almost any malady that would make good statistics, but the fact would never be discovered. Glaring defects were noted first and there can be no doubt that many or at least some men in the incipient or even moderately advanced stages of tuberculosis were rejected because of underweight or poor physique.

A man of 5 ft. 6 in. in height, weighing 110 lbs., was not given a chest examination, nor was the man with a glass eye examined as to his weight and height.

For these reasons I fear little can be learned from the study of the findings of the local boards of exemption.

To examine thoroughly enough to give an opinion that would be at all valuable in statistic compilation would consume much more time than could possibly be devoted to the individual in whom a rejecting defect had been noted. If the examiner did not discover it, trust the soldier to call it to his attention.

For just what they are worth I will give the results of the examination of the first lot of men called in the 1st Division of Rutland County.

Of 906 men called for physical examination 68 were for various reasons not examined here. Of the 838 men examined 424 or 50.6 % were accepted and 414, or 49.4% rejected. The causes of rejection were as follows:

Hernia 72

Defective vision	47
Under weight	45
Organic and functional heart disease	34
Diseased and missing teeth	25
Mouth breathing	17
Flat feet	17
Deformities of spine	13
Deformities of upper extremities	14
Poor physique	11
Defective hearing	9
Defective mentality	8
Under Height	6
Loss of parts of upper extremities	11
Syphilis	5
Varicocele	9
Deformities of lower extremities	6
Goitre	6
Short leg	6
Loss of parts of lower extremities	5
Epilepsy	5
Obesity	5
Varicose Veins	4
Pulmonary weakness	4
Unsafe abdominal scar	3
Tuberculosis	2
Cripples	2
Paralysis of extremity	2
Chronic Laryngitis	2
Skin Disease	2
Defective nervous system	1
Cancer (removed)	1
Tumor of bone	1
Enlarged (tuberculous) testicle	1
Tubercular kidney	1
Suppurating inguinal glands	1
Ununited fracture	1
Bad feet	1
Defective nose	1
Torticollis	1
Fractured skull	1
Asthma	1
Fractured patella	1
Undescended testicle	1
Weak spine	1
Phlebitis	1
Gravel	1

Probably these figures are much like those of other boards where careful examinations were made. From the rumors some boards have evidently considered it their first duty to fill their quota regardless of the physical qualifications of the men. The percentage of rejections at the home stations was very flattering to the health of the communities from which the draft was taken, but the findings of the medical officers at the cantonments and their comments were not in the least flattering to the draft examiners.

That practically one-half of our young men between the ages of 21 and 31 are unfit for military service seems deplorable; but many of these disqualifications do not render them unfit for the occupations of peace. Those suffering from hernia, of whom there were 72, or 8.5%, may be relieved by operation and accepted in the army. About one-half of this number had umbilical hernias that might have been prevented by proper care when they were infants.

Under weight, the next frequent disability. the cause of 5.6% of the rejections, includes many men who are physically fit for other duties of life, who would pass a good examination for life insurance, but are not considered by the War Department able to stand the hardships of training and service. Yet some of these men suffer from wasting diseases that render them unfit for any service.

34, or about 4%, were rejected because of organic and functional diseases of the heart. It would be interesting to study their early personal history, to learn how many of them had had neglected teeth and tonsils.

Although gonorrhea does not cause rejection, hardly more than two or three cases were noted. Syphilis debarred five. These were such form of syphilis as could be diagnosed without the Wasserman test.

So we might go on through the list, studying the various causes without learning more than that these conditions do exist. But is there no remedy? We are now prepared with munitions but we must remember that the gun is of no value without the man behind the gun.

As advocated by Dr. Caverly in his excellent paper before the Vermont State Medical Society last week, early home care and proper health supervision in school go far toward the health and fitness of the young, but I add just one more remedy. I believe in Universal Military Service. Not only would the Nation always be prepared in men as well as material, but if every young man were compelled to devote one or two years of his life to this training he would put himself in the very best physical condition to face the problems and trials of civil life.

If we could realize that the good physique acquired in training would be apt to add more years to the life of the man than he would spend in the army we would use every bit of influence we have to favor the passage of the Universal Service Bill that is sure to come up again in Congress at its next session.

It has been suggested that the government call for service not only those fit but those who, in the judgment of the Examiners, could be made fit by operations and treatment. This is a procedure that might be possible if man shortage ever becomes acute, but it would be hardly a popular measure at present.

HENRY DWIGHT HOLTON, A.M., M.D.

Under date of August 29, 1910, Dr. Henry D. Holton of Brattleboro placed in the hands of a trusteee $1500 for the purpose of establishing a lectureship in the Vermont State Medical Society.

The terms of the gift provided for a speaker at each annual meeting upon either "Sanitary Science" or "General Medicine"; it further provided that his name should not appear in this connection until his decease, when the gift was to be recorded and confirmed by the Probate Court. This trust typifies the man. It was a substantial and unostentatious contribution to the health interests of the state.

During the six years since the proceeds of this trust have become available to the Society, this lectureship has been maintained. "Sanitary Science" has usually been the subject of the annual lecture.

The trustee, as well as the donor, have both died during the last year and a new trustee has recently been appointed by the Probate Court. In making this gift to the Vermont State Medical Society, Dr. Holton accomplished, without any doubt, two purposes. He showed his interest in the Vermont State Medical Society and the medical profession of the state, with which he had been identified all his life; and also his desire to promote the public health to which he had devoted the best years of his life.

He was President of the State Society in 1872 and in 1873 was a member of a Committee of three from this Society, which urged upon the General Assembly the establishment of a State Board of Health. He labored indefatigably for

Continued on Page 300

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Conducted by the Publication Committee

William Gray Ricker, M.D., St. Johnsbury, Chairman.
A. Stuart M. Chisholm, M.D., Bennington.
Edward Homer Martin, M.D., Middlebury.

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A. Stuart M. Chisholm, M.D., Bennington, Editor.
James Madison Hamilton, M.D., Rutland, Business Manager.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton, other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Editorials

PUBLIC HEALTH

How little as yet our knowledge of the method of preventing infection has succeeded in effecting the results that we have anticipated, is evident from *The Public Health Reports,* published weekly by the U. S. P. H. Service. In the issue of Nov. 2, 1917, we find that yellow fever is still doing business much as usual in Guayaquil, 95 cases being reported with 41 deaths. Typhus fever, which co-operated so largely with the armies of the Central Empires in the subjugation of Serbia two years ago, has apparently secured a firm footing in Austria-Hungary, where 3752 cases are reported. Small-pox no longer of course dominates the world as it used to do, but while Germany threatens us with a worse empire than that of small-pox yet the ravages of the latter monster continue. India reports 3515 cases, Japan 4974, Russia 649, Mexico 304, Brazil 511, Germany 715 and France 2; while here at home California had 26 cases, Colorado 11, Michigan 66, Minnesota, 73 and Montana 76. Typhoid fever also has pushed its unwelcome way into the reports for September, 1917. California had 173 new cases, Colorado 87, District of Columbia 81, Louisiana 134, Michigan 157, Minnesota 104, Mississippi 890, New Jersey 255 and South Carolina 105. In the territory of malaria, Mississippi reigns without a rival, 25,435 new cases being reported for September alone. If these figures were to be taken for the monthly average and all the old cases were to be added, it would appear that malaria would supplant cotton as the leading industry of Mississippi.

The prevalence of typhoid fever is certainly very disquieting. With the proved efficacy of typhoid vaccine in mind its seems criminal to delay longer the enforcement of a compulsory law for its prevention. In time of war, soldiers are the most important units of social activity. It is right and necessary that they be protected. But even in time of war it is surely wise to pro-

tect the civilian population as well and preserve intact and efficient those who, too old or too young, women and those engaged in vital necessities at home, are exposed to infection.

In Indiana, for example, there has been a remarkable prevalence of typhoid during September. The most careful scrutiny of milk supply and of water supply has failed to yield even an adequate basis for conjecture in more than 50% of the cases reported. The Editor of the *Journal of the Indiana State Medical Association,* in commenting on this condition of things, remarks:

"It seems to us that it is safe to say that typhoid deaths represent only about 1 per cent. of all persons actually infected with typhoid bacilli at that time. A large experience shows that of 100 persons infected with typhoid 4 persons become typhoid bacilli-carriers for a longer or shorter time. Thus, if a city had a typhoid death rate of 24-28 per 100,000 almost a hundred bacilli-carriers would be added to the population each year.

"Our figures may be somewhat too large, but they do give some conception of the multiplication of possible sources of infection for any person who is not immune to typhoid fever.

"If the medical department of the U. S. Army is unwilling to assemble large numbers of susceptible young men together where it has absolute control of the water and food supply and other sanitary conditions, it would seem absolutely foolhardy for a city health board with its limited control of water and milk and its meager control of personal and other hygienic conditions to allow its susceptible citizens to go unvaccinated against typhoid."

VENUS AND MARS

The National Army may be estimated with approximate accuracy as containing about a million and a half men, divided into four sources.

Regulars	100,000
National Guard	376,000
Selective Draft	687,000
Enlistments	280,000
	1,443,000

They are variously distributed, Panama, the Philippines and other outlying possessions; the army and instruction posts throughout the country; the several contingents that have already been transported to France and England. Of these there are in 31 instruction camps in the United States 750,492 men, who are undergoing every kind of training that can be given them here in preparation for service abroad. These men are entirely under the control of the War Department. Summoned suddenly from farms, offices and workshops, a thousand multifarious occupations have all given place to one absorbing endeavor. They are soldiers, or are being made over into soldiers, alone. All liberty of action, all independence of life, are withdrawn from them. They are in the service of the Nation. Upon their efficiency the hope of the country rests and their health is the basis and indispensable condition of efficiency. They are in a strict and unusual sense the supporters of democracy and as such the Government has entered into an implied contract with them to preserve their health, upon which so much depends.

That such a contract exists is beyond dispute. That some attention has been paid to it is evident from the fact

that among these 750,492 men the number of reported typhoid fever cases for the week ending November 2, 1917, was only seven. But typhoid is less a menace today even in civil life, when vaccination is not as yet usual, than Syphilis and Gonorrhoea. In civil life Syphilis alone ranks as an evil with Alcoholism and Tuberculosis, but in the instruction camps it stands first by far. Medical Sociologists justly regard the Venereal diseases as constituting the most important menace to civilization. In the camps, typhoid has been practically ended and recalling past experiences, we rejoice as at a grand achievement. And so of course it is, if that can be properly called a grand achievement whose neglect would be an intolerable shame. This ought we to have done but not to leave the other undone. Our simple, plain, inescapable duty is to eradicate venereal diseases, whose existence is a more intolerable disgrace than typhoid. If this cannot be done in the United States army where restrictive measures constitute such an important part of discipline, we may well fold our hands in despair and content ourselves with noting the ravages of an evil that we are powerless to meet under other and more difficult conditions. We must swallow our own shame and confess ourselves incompetent to meet the crying demand of modern civilization.

Among the reports from several camps, published in the *Jour. A. M. A.* for November 17, 1917, we read in that from Fort Riley, Kansas:

VENEREAL DISEASE

In civil life we have all heard of the great frequency of venereal diseases among soldiers of the Regular Army. In view of this teaching, it may be of interest to note our experiences in the examination of the National Army men just out of civil life on their arrival in camp. For the white troops the incidence of all venereal diseases has ranged between 5 and 6 per cent.; for the colored troops, over 20 per cent.

Additional "food for thought" is furnished in the report under the same date from Fort Sill, Okla., where the total disease incidence was under 2%:

The venereal disease problem also, here as elsewhere, forms one of the important considerations. Since October 1 there have been 322 venereal disease patients under treatment in this division; this makes approximately 1.3 per cent.,

which being interpreted means that three patients of every four have venereal disease. At Camp Jackson, Columbia, S. C., the 81st Division, consisting of 17,139 men, is stationed. For the week ending November 2, 1917, there were reported from Camp Jackson 191 cases of venereal disease, or something over one case for every ninety soldiers. That was the harvest of only a week.

How fortunate, we may think, that these boys are soon to be in France, and removed from the frightful infection to which they are exposed in the United States! But the conditions in France are worse—even than this. M. Adler, Chief of the Health Bureau at Lyons, has written a brochure on this subject, which has also received due attention in the "Annales des Maladies Vénériennes." The Boston Medical and Surgical Jour. (Nov. 22, 1917) comments on these articles at length, and from that editorial we excerpt some statements.

Both in the towns and near the trenches soldiers are being grievously infected with syphilis and gonorrhoea. M. Soulier and Professor Gaucher do not hesitate to assert that the prevalence of these plagues is horrible. Complete figures have not yet been published, but statistics of Gaucher's clinic at the Saint

Louis Hospital during the first two years of war give some conception of the serious mischief which almost certainly is now being caused by the spread of syphilis. In his address to the Academy of Medicine, he said:

"Whereas, *before the war*, there were, in round numbers, 300 recent cases of syphilis in 3000 patients at our clinic, or 1 in 10, in the first months of the war we had 800 cases of recent syphilis in 5000 patients, or 1 in 6. In the eight months that followed, our statistics show 600 cases in 2300 patients, or 1 in 4. Thus, in the first sixteen months of war—from August, 1914, to the end of December, 1915—syphilis increased by more than one-third, by nearly one-half; while in the eight subsequent months—January to August, 1916—it increased by more than one-half, by two-thirds. * * * * Syphilis generally has increased by more than one-half, by two-thirds."

Near the front, the ravages of venereal diseases form a serious calamity. Great harm is done to young soldiers of 19 and 20 years of age by the display on the streets. Its daily appeal is an intensive cultivation of vice, and is particularly mischievous in the case of youths, excited by war and out of touch with their normal selves.

This being the psychological atmosphere, remarks M. Soulier, imagine the coming of overseas contingents, of hundreds of thousands of negroes, Moroccans, Somalis, Kabyles, Tunisians, Annamites, and Chinese, who bring with them ancient blood full of the syphilitic toxin which speedily makes war on the conscript's health.

How to hold in check these men of various nations who are inclined to expose themselves to infection is a problem that medical science must solve. Prophylaxis is important, but an even more important consideration is raised by the question how far it is possible to deal with venereal diseases by inspection of these troops. A committee of the Academy of Medicine, composed of Pinard, Balzer, Gaucher, Kirmisson, and Vaillard, reported that in view of the fact that infection had been greatly spread by the arrival of over-seas contingents, inspection at port and in the home camps was necessary. They look at the reasons with clearness. When these contingents arrive the population passes all at once into a febrile mood of exaltation. Wine flows, excitement multiplies, and the scene becomes a carnival. No one capable of discerning the spirit of such occasions can possibly fail to realize that its whole tendency is relaxing and enervating. It is in this environment that venereal diseases flare up and spread.

This, then, is one of the conditions which face us. What are we going to do about it?

The invasion of Italy by Charles VIII of France in 1495 and the history of the occupation of Naples has, from the time of Philippe de Commines until the present engaged the attention of historians beyond any consideration of its military affairs, because of the fact that the French were driven out of Naples not so much by Fernandez de Cordoba as by the Neapolitan prostitutes who infected the French army to such an extent that their efficiency as soldiers was for the time entirely destroyed. There seems to be no adequate foundation for the theory that has been long current that syphilis was introduced into Europe by the sailors of Columbus, but it became known throughout France as the *Neapolitan disease* and when it came across the Channel to England it became known there as the *French disease.* There is no doubt that long before Columbus returned, and long before the French invaded Naples, the pox was endemic in China. The medical history of Charles VIII's invasion of Italy is a commonplace of medical annals. It is inconceivable that it should be repeated but the power lies in the hands of military authorities to prevent syphilis and gonorrhoea as perfectly and as completely as they have learned to prevent typhoid.

REPORT OF SECRETARY

St. Johnsbury, Vt., October 1, 1917.

To the Members of the Vermont State Medical Society:

In the first place, I wish to thank the Society for the honor of being elected Secretary, for indeed it is an honor to have the privilege of conducting the affairs of a society such as this one. There have been many things left undone this past year, but the work has been new, and there have been a lot of details to be learned, and there are still more to be learned. The loyalty and co-operation of all the officers, committees and members has been a source of pleasure, and has made it possible to render such services as you have received. Following are the statistics of the Society for the past year:

	Paid-up Members 1916	Paid-up Members 1917	Increase	Decrease
Addison	22	21		1
Bennington	20	21	1	
Caledonia	30	32	2	
Chittenden	69	69	0	0
Franklin	35	34		1
Lamoille	12	11	1	
Orleans	16	16	0	0
Rutland	60	59		1
Washington	57	55		2
Windham	34	23		11
Windsor	25	21		4
	380	362	4	20

These, as will be noticed, do not correspond with the published roster of May, 1917, but are my own official records, based absolutely upon the certifications of the annual dues being paid to the State Society. Had I done my part in co-operating with the County Secretaries earlier in the year, I think our membership might have shown an increase instead of a decrease of 16. In this list are not included the emeritus members, of which there are at present about 18.

The first of the Post Graduate Meetings was a talk on Anaphylaxis, given by Dr. J. A. Turnbull of Boston at the meetings held in May and June, and the second series was a talk on Laboratory Aids in Diagnosis, given by Doctors Beecher, Jenne, Stone, and Buttles of the University of Vermont during September. A fuller report of these meetings is found in the September issue of VERMONT MEDICINE.

In addition to these meetings, this office co-operated with the Vermont State Board of Health in holding the clinics on Infantile Paralysis. However, we do not assume any credit for this last. It should all be given to the State Board of Health.

The machinery for conducting these meetings, it seems to me, might be improved upon. According to the instructions of the House of Delegates, these shall be conducted with the aid of the Councilors. It is difficult to get these four men together on account of the distance and expense. The Executive Committee are in closer touch during the year, and it seems to me that this Committee, with the President *ex-officio*, should have charge of this work. The County Organization in some districts works well, and in others not so well, and I would suggest that the Executive Committee be authorized to appoint Local Committees of one or more in each district, who shall have charge of the local arrangements. As I have expressed myself before, I am strongly in favor of this work and believe that when properly conducted, it is of great value to the members of the Society.

Respectfully submitted,

WM. G. RICKER, M.D.

REPORT OF THE TREASURER

Received from C. F. Dalton, November 1, 1916	
General Account	$330 72
Medico-Legal Fund	3,710 01
	$4,040 73

RECEIPTS FROM CONSTITUENT SOCIETIES

Addison County Society	$84 00
Bennington County Society	84 00
Caledonia County Society	128 00
Chittenden County Society	276 00
Franklin County Society	136 00
Lamoille County Society	44 00
Orleans County Society	64 00
Rutland County Society	236 00
Washington County Society	218 00
Windham County Society	92 00
Windsor County Society	84 00
Total	$1,446 00

360 members at $4	1,440 00
2 members at $2 (Sept. 1 to Dec. 31,1917)	4 00
1 member at $2 (Sept. 1 to Dec. 31, 1916)	2 00
362 Due-paying members Oct. 1, 1917	
	$1,446 00

GENERAL ACCOUNT

Received from C. F. Dalton, Nov. 1, 1916		$330 72	
Received from County Societies (one-half)		723 00	
Received from G. C. Averill, Trustee		65 00	
			$1,118 72

EXPENDITURES

1916 Meeting:			
Stenographer	$21 20		
Ellsworth Eliot, expenses	23 50		
F. E. Farmer, local committee deficit	100 60		
M. Nicoll, Trust-fund lecture	65 00		
		$210 30	
Post-Graduate Meetings:			
J. A. Turnbull, expenses	$55 11		
Refreshments, Burlington meeting	11 25		
		$66 36	
E. H. Martin, postage		4 35	
G. G. Marshall, post. Com. Health & Pub. Instruction		4 80	
Printing		66 40	
J. A. Stevenson, exp. Executive Com.		13 40	
J. M. Hamilton, expense account		9 32	
Publication Committee, 1916, salary voted		150 00	
Treasurer's bond		12 50	537 43
Balance Oct. 1, 1917			$581 29

MEDICO-LEGAL FUND CHECKING ACCOUNT

RECEIPTS

Nov. 1, 1916, from C. F. Dalton	$448 33	
From County Societies (one-half)	723 00	
		$1,171 33

DISBURSEMENTS

W. R. Austin, professional services	$162 96	
Jan. 3, 1917, transfer to Burlington Savings Bank	287 37	
May 1, 1917, transfer to Burlington Savings Bank	284 00	
June 4, 1917, transfer to Burlington Savings Bank	122 00	
Sept. 4, 1917, transfer to Burlington Savings Bank	42 00	
Oct. 1, 1917, transfer to Rutland Savings Bank	73 00	
		971 33
Balance		$200 00

MEDICO-LEGAL FUND SAVINGS BANK ACCOUNT

Nov. 1, 1916, From C. F. Dalton:		
Champlain Trust Co.	$2,052 70	
Jan. 1, 1917, Interest	31 04	
July 1, 1917, Interest	41 66	
		$2,125 40
Nov. 1, 1916, From C. F. Dalton:		
Burlington Savings Bank	$1,208 98	
Jan. 1, 1917, Interest	24 17	
Jan. 3, 1917, Transfer from checking account	287 37	
May 1, 1917, Transfer from checking account	284 00	
June 4, 1917, Transfer from checking account	122 00	
July 1, 1917, Interest	32 71	
Sept. 4, 1917, Transfer from checking account	42 00	
		2,001 23
Oct. 1, 1917, Transfer from checking account to Rutland Savings Banks		73 00
Total in Savings Banks		$4,199 63
Add balance in checking account		200 00
Total Medico-Legal Fund		$4,399 63

VERMONT MEDICINE

Gross deficit Jan. to Aug. 1916, inclusive See Treasurer's Report last year	$220 48
Salary paid 1916 Publication Committee as per vote	150 00
Total deficit Jan., 1916, to Aug. 1916 inclusive	$370 48

This year the Publication Committee appointed Dr. James M. Hamilton Business Manager and Dr. A. S. M. Chisholm. Editor. To them also were turned over all assets and liabilities of the journal and they were to have entire control of the publication, rendering from time to time as required an account of the financial status of the paper.

For further information in regard to VERMONT MEDICINE, members are referred to Dr. Hamilton's report.

Respectfully submitted,

E. H. MARTIN, Treasurer.

A FREE DENTAL CLINIC IN THE RURAL SCHOOLS OF VERMONT

Communication

This clinic was started in Dorset November 19, 1917, under the direction of the State Board of Health, the State Educational Department, and the State Dental Society, with funds given for the purpose by Miss Emily Dutton Proctor and Redfield Proctor of Proctor. Only children from six to twelve years will be taken care of. These will be given necessary treatment, drilled in the proper care of the teeth, and provided with tooth powder and brushes. Talks and illustrated lectures will be given for the purpose of securing the interest and cooperation of the parents. The Superintendent and teachers prepare the ground by announcing the coming of the dentist at a certain date, and explaining the character of the work to be done and the value of the service to them. The parent or guardian of each child is required to sign the following permit:

My Dear Friend:

Dr. Johnson, who is working under the direction of the State Board of Education, the State Board of Health, and the Vermont State Dental Society in the care of children's teeth, will be in your school on ——. No charges will be made for this service. We desire your permission for this attention, and invite you to be present while the dentist is at work. If you are willing to allow Dr. Johnson to examine and treat your child's teeth, please sign the enclosed permit.

. . . . . .

I hereby grant permission to Dr. Johnson to inspect and care for the teeth of my child . . . . . .

It is understood that this is to be done without expense to myself.

Date . . . . . .

. . . . . .

(Parent's Signature.)

The director of the clinic is Earle E. Johnson, D.D.S., who has had experience in this line of work at the Forsyth Dental Infirmary in Boston and school dental clinics in Massachusetts. The beginning in Dorset has been encouraging. The community has received the enterprise with confidence, and has entered heartily into the carrying out of our plans. The work there is about done and the outfit will soon be moved to another school in the same district. It is estimated that there are about 5000 children of the ages included in the plan, in the rural schools of the State. The cavities filled for the children in Dorset averaged ten to each child, giving us some idea of the amount of work to be done. No teeth are filled that are not safe to retain; all others are extracted.

It is unnecessary to urge to medical men the value of an undertaking of this kind. Septic foci in the mouths of children are as important as they are in the mouths of adults, and are of at least as frequent occurrence; it is as important that a child have an efficient dental apparatus as that an adult have it, but at present parents do not provide their children under twelve with sufficient attention to their teeth, in fact with practically none.

It is to cover this error in the management of an important evil, that a free clinic for the children in the rural schools of Vermont was conceived and undertaken.

P. M. WILLIAMS,
Chaiman Committee on Oral Hygiene,
Vermont State Dental Society.

Rutland, December 3rd.

The War

Honor Roll of Vermont Physicians in the Service of their Country.

Majors

Thos. J. Hagan, M.C., 1st Vermont Inf., Camp Greene, Charlotte, S. C.

Edward A. Tobin, M. O. R. C., Plattsburg Barracks.

Wm. Warren Townsend, M. O. R. C., Chief G. U. Service, Camp Dix.

Captains

Geo. E. Chamberlain, So. Newbury, Vt., physically disabled.

Frederick Elsworth Clark, Instruction in Laboratory work, Rockefeller Institute.

Harry Leslie Frost, Boston, Instruction in Orthopedic Surgery.

Henry Chester Jackson, Base Hospital, Fort Riley.

Horatio Nelson Jackson, Senior Instructor, Medical Officers' Class, Camp Mead.

Geo. Guerin Marshall, Balboa Heights, Panama.

Wm. Hayes Mitchell, Ft. Ethan Allen.

George Roberts, Base Hospital, Fort Oglethorpe.

William Stickney, Chief of Surgical Section, Base Hospital, Camp Upton.

Herbert Wellington Taylor, in France.

Lieutenants

Geo. Albert Alden, no report.

Fred Noble Aldrich, in France.

Frank C. Angell, School of Roentgenology, Boston.

Geo. Lucien Bates, Camp Grant.

Robert Oscar Blood, M. O. T. Camp, Ft. Benj. Harrison.

Arthur Washington Burnham, M. O. T. Camp, Ft. Benj. Harrison.

Mitchell D. Carey, Montpelier, inactive list.

Charles P. Chandler, Montpelier, inactive list.

Julius E. Dewey, Montpelier, inactive list.

Francis J. Ennis, Burlington, Vt., inactive list.

Victor P. Genge, Reorganization Camp, Syracuse, N. Y.

Frank Leslie Gilbert, Camp Lee, Petersburg, Va.

Stewart Louis Goodrich, Phipps Clinic, Baltimore.

Albert Joseph Greenwood, no report.

Herbert Bill Hanson.

Waldo Russell Harkness, Montpelier, inactive list.

Anselme E. Houle, inactive list.

Frederick W. Harriman, Montpelier, inactive list.

Arthur Leo Larner, Ft. Ethan Allen.

Geo. Eugene Latour, Camp Custer, Battle Creek, Mich.

Casper Sylvester Leach, no report.

Charles Emerson Libbey, Camp Taylor.

Robert Leland Maynard, Boston City Hospital.

Seth H. Martin, Ft. Ontario.

Walter Franklin McKenzie, Camp Vail, Little Silver, N. J.

Harold Stearns Peck, General Hospital, London, Eng.

JOHN C. MURPHY, died in service, Ft. Ethan Allen.

Thomas Rice, no report.

Douglas James Roberts, Instructor in Roengenology, Cornell Medical College.

Leonard Blake Rowe, inactive list.

Geo. Albert Russell, 19th Cavalry, Ft. Ethan Allen.

Dennis J. Sheehan, Fort Oglethorpe.

Chester Lewis Smart, School of Roentgenology, Boston.

Ray Ernest Smith, in France.

Henry Eugene St. Antoine, Jamaica Plain, Mass.

John David Thomas, Army Medical School, Washington.

Ray Brown Thomas, M. O. T. Camp, Ft. Benj. Harrison.

Henry Latimer Tillotson, Groton, Vt., inactive list.

Henry Reuben Weston, Base Hospital, Camp Lee.

John B. Wheeler, Burlington, Advisor to Governor of Vermont.

Rollin D. Worden, Camp Sherman.

Navy.

Bertrand Fletcher Andrews.

Edward A. Crofutt.

Ransom H. Holcomb.

John Dowd Lane.

Leland McKinlay.

Charles Edward Morse.

Capitals indicate, died in service.

Italics, serving "overseas."

Information is requested that this roll may be kept as nearly correct as possible.

MEDICAL ADVISORY BOARDS FOR VERMONT

Board No. 1.

Located at St. Johnsbury serving the local boards for Caledonia, Essex and Orleans counties and the Probate district of Bradford within the jurisdiction of the local board for Orange county:

Internist, F. E. Farmer; surgeon, J. M. Allen; eye and ear, W. C. Ricker; neurologist, W. B. Fitch; laboratory, J. W. Wesley, all of St. Johnsbury.

Board No. 2

Located at Bellows Falls, serving the local boards for Windham and Windsor counties:

Internist, J. H. Blodgett; surgeon, W. F. Hazelton; eye and ear, G. H. Gorham, of Bellows Falls; neurologist, S. E. Lawton; laboratory, H. P. Green, of Brattleboro.

Board No. 3

Located at Montpelier, serving the local board of Washington county, the Probate district of Randolph within the jurisdiction of the local board for Orange county, and the town of Stowe within the jurisdiction of the local board for Lamoille county:

Internist, M. L. Chandler of Barre; surgeon, M. F. McGuire of Montpelier; eye and ear, D. C. Jarvis of Barre; neurologist, T. J. Allen of Waterbury; laboratory, C. M. Parmenter of Montpelier.

Board No. 4

Located at St. Albans, serving the local board for Franklin county:

Internist, C. E. Allen of Swanton; surgeon, A. O. Morton; eye and ear, F. W. Norris; neurologist, W. J. Upton; laboratory, E. A. Hyatt, of St. Albans.

Board No. 5

Located at Burlington, serving the local boards for Chittenden, Grand Isle, Addison counties, and the county of Lamoille, except the town of Stowe:

Internist, C. H. Beecher; surgeon, G. M. Sabin; eye and ear, M. C. Twitchell; neurolovist, F. W. Sears; laboratory, B. H. Stone, all of Burlington.

Board No. 6

Located at Rutland, serving the local boards for Rutland county—District No. 1 and District No. 2, and the county of Bennington:

Internist, S. W. Hammond; surgeon, E. M. Pond; eye and ear, T. E. Larner; neurologist, A. H. Bellerose; laboratory, C. F. Ball, all of Rutland.

(Continued from Page 289)

the accomplishment of this purpose until in 1886 the Board was finally created. He was a member of the Board from 1896 until the time of his death and during much of that time its Secretary and executive officer.

The State Society on being formally told the name of the donor of this hitherto anonymous trust, at its recent annual meeting, very properly by unanimous vote, named it "The Henry D. Holton Trust Fund."

This lectureship will remain a perpetual memorial to the good physician and to the tireless and unselfish public servant whose name it now bears. C. S. C.

REPORT OF THE HOUSE OF DELEGATES

The House of Delegates assembled in the smoking room at Howland Hall at 5 P. M. October 11th with Vice-President W. E. Lazelle in the Chair.

Eighteen delegates responded to the roll call. In view of the fact that the secretary's report was printed and in the hands of the delegates its reading was dispensed with and other business of the House was immediately taken up.

It was voted that Dr. Derven, of Rutland County, be given a seat in the House as none of the alternates from Rutland County were present.

It was voted that the report of the Necrology Committee, being in the hands of the Secretary, be accepted, adopted and printed.

The report of the auditor, not being in print, was then read by Secretary Ricker. That report is as follows:

Mr. President:—

In performance of the duties of auditor I have read the report of your treasurer, Dr. E. H. Martin, and examined his vouchers and bank accounts. These I find in perfect agreement.

The account of the Business Manager of Vermont Medicine has been examined. A few corrections of detail have been reported to the Chairman of the Publication Committee.

Respectfully yours,
G. L. PATCH.

It was voted that the report of the auditor be accepted.

The matter of discontinuing the publication of the journal "Vermont Medicine" was then discussed and it was voted to continue the publication of the Journal.

It was then voted that the Society continue to pay one dollar a year per member, and that to include both the financial members and the honorary members, towards the support of the journal, and that this money be available for the Business Manager as practicable to discount his bills.

Dr. Steele, Secretary of the House of Delegates, then read the following letter and resolution:

Swanton, Vt., Oct. 4, 1917.

Dr. C. H. Beecher,
President, Vermont Medical Association,
Burlington, Vermont.

Dear Sir:—

Enclosed you will find a resolution which I would request the Medical Association to consider and adopt at its convention soon to be held in Barre. Please advise me of what action, if any, is taken.

Very truly yours,
HELEN M. MARTINDALE,
State Superintendent of Medical Temperance.

RESOLUTION

Whereas, The study of alcohol from a scientific standpoint has demonstrated that its action is deceptive, and that it does not have the medical properties that we once claimed for it, now therefore be it

Resolved, By the Vermont Medical Association, that we deplore the fact that our profession has been quoted so long as claiming for it virtues which it did not possess, and that we earnestly pledge ourselves to discourage the use of it both in and out of the sick room.

It was voted that this letter and resolution be laid on the table.

It was voted that the next meeting of the Society be held in Burlington.

It was voted to adopt all the reports which were in print and in the hands of the delegates, namely: Report of the Secretary, Report of the Executive Committee, Report of the Legislative Committee, Report of the Medical Education Committee, Report of the Medico-Legal Committee, Report of the Committee on Health and Public Instruction, Report of the Treasurer.

A proposal of amendment to the fourth article of the Constitution by substituting the word "September" for "October" was offered by Dr. McGuire, of Montpelier.

Treasurer E. H. Martin then made the following statement:

I wish to bring up the matter of the trust fund, the secrecy of which, by the death of Dr. Holton, is ended. The fund was given by Dr. Holton some years ago, and the trustee, Mr. Averill, is also dead. Knowing these facts I wrote to Dr. Anderson, Secretary of the Windham County Society, asking him to inquire of the administrator and find out how it was going to be about the fund for this year and I received the following letter from him:

Brattleboro, Vt.,
October 5, 1917.

Dr. E. H. Martin,
Middlebury, Vermont.
Dear Doctor:—

Acting on your request of the fourth instant I called on the Administrator of Mr. George Averill's Estate. He informs me that he cannot turn over the income of this fund without the authority of the court. He suggests that the Vermont Medical Society apply to the courts for the appointment of a new trustee. He regrets he cannot comply with your request.

If I can be of further assistance, command me.

Yours truly,
GEORGE R. ANDERSON.

Yesterday I received the following letter:

Brattleboro, Vt.
October 8, 1917.

E. H. Martin, M. D.,
Vermont State Medical Society,
Middlebury, Vermont.
Dear Sir:

Among the papers left by the late George C. Averill in safe keeping with this bank was a document, a copy of which I send you herewith, and the securities mentioned therein. You have doubtless received the income from this fund from year to year. Unfortunately Dr. Holton made no provision in this document for George C. Averill's successor after his decease, and the Judge of Probate advises us that he has no authority to appoint such a successor, and that the Vermont Medical Society, as the recipient of the income, should place upon its records a copy of this document, and ask for the appointment

of a trustee to collect the income. He also advises us that if at any time the Vermont Medical Society should cease to exist, the securities herein referred to would revert to the estate of Henry D. Holton. The writer is appointed one of the trustees for various trust funds under the will of the late Dr. Holton, and in view of the circumstances surrounding this trust for the benefit of the Vermont Medical Society, it would seem quite fitting for the Medical Society to ask for the appointment of the writer as trustee to succeed George C. Averill. This step would undoubtedly satisfy those interested in the estate of Dr. Holton, as well as the Vermont National Bank, which is under more or less obligation for the safe delivery of the securities.

Any further information which we can furnish you in connection with this matter will be gladly furnished.

Yours truly,
R. C. CLARK,
Assistant Cashier.

P. S. For your information I will state that in years previous to 1915, Dr. Dalton, Secretary of the State Board of Health, has given a receipt for the income on these Securities.

The following is a copy of the document referred to in the letter:

Brattleboro, Vt.,
August 29, 1910.

I hereby give to George C. Averill, of Brattleboro, Vt., in trust, the following securities, namely:

Western United Gas & Electric Co., 5 per cent first mortgage bond of 1922, number 2156 for $500.00 and

Atchison, Topeka & Santa Fe R. R. Co., 4 per cent general mortgage bond of 1995, number 87159 for $1,000.00.

The condition of this trust being as follows, namely:

The trust shall be operative, beginning October 1st, 1910, the first interest payment to be in October, 1911. The income of the above securities shall be paid annually in October to the Treasurer of the Vermont Medical Society, for the purpose of establishing a lectureship, providing for a speaker for each annual meeting of said society, upon either Sanitary Science, or General Medicine, the appointment of said speaker to rest with the officers of said Medical Society.

At my decease, I direct that this trust be recorded and confirmed by the probate court of the district of Marlboro, Brattleboro, Vermont.

In the meantime the name of donor to be treated as confidential by the trustee.

Witness my hand and seal the day and year first above mentioned.

HENRY D. HOLTON.

Witness,
Miss Gertrude Noreross.

It was voted that the Treasurer be given power to act for the Society in the matter of having a new trustee appointed.

It was also voted that this fund shall hereafter be known as the "Henry D. Holton Trust Fund."

C. W. Bartlett, of Bennington, was unanimously elected President for the ensuing year.

Vice-President Lazelle then appointed Dr. C. W. Howard, of Shoreham, Dr. F. L. Osgood of Townshend, and Dr. David Marvin, of Essex Junction, a Committee to consider the matter of the election of the remaining officers of

the Society to report with their recommendations Friday morning.

The meeting then adjourned until 8:30 A. M. Friday morning.

ADJOURNED MEETING OF THE HOUSE OF DELEGATES

Friday Morning, October 12th

Meeting called to order by Dr. Lazelle.

The report of the nominating committee was called for and read by the chairman, Dr. Marvin, as follows:

We nominate the following men for officers:

Dr. C. W. Bartlett, Bennington, President; Dr. William Lindsay, Montpelier, Vice-President; Dr. William G. Ricker, St. Johnsbury, Secretary; Dr. E. H. Martin, Middlebury, Treasurer; Dr. W. J. Upton, St. Albans, Auditor; Dr. J. N. Jenne, Burlington, councillor for first district; Dr. F. E. Farmer, St. Johnsbury, councillor for third district; executive committee, Dr. W. G. Ricker, St. Johnsbury, Dr. David Marvin, Essex Junction, Dr. M. F. McGuire, Montpelier; publication committee, Dr. William G. Ricker, St. Johnsbury, Dr. A. S. M. Chisholm, Bennington, Dr. E. H. Martin, Middlebury; legislative committee, Dr. F. W. Sears, Burlington, Dr. W. N. Bryant, Ludlow, Dr. H. H. Swift, Pittsford; medical education committee, Dr. C. S. Caverly, Rutland, term to expire in 1920; necrology committee, Dr. E. H. Ross, St. Johnsbury, Dr. E. M. Brown, Sheldon, Dr. F. L. Osgood, Townshend; medico-legal committee, Dr. J. N. Jenne, Burlington, term to expire in 1920; health and public instruction committee, Dr. C. F. Dalton, Burlington, Dr. J. H. Blodgett, Bellows Falls, Dr. E. A. Hyatt, St. Albans, Dr. F. E. Farmer, St. Johnsbury, Dr. J. W. Stewart, Barre; anniversary chairman, Dr. A. E. Colton; officers of the House of Delegates, Dr. J. M. Hamilton, Rutland, President; Dr. C. J. Rumrill, Randolph, First Vice-President; Dr. A. O. Morton, St. Albans, Second Vice-President; Dr. David Brown, Lyndonville, Secretary.

The above named officers were unanimously elected by the House.

It was thereupon voted that the matter of post graduate work for the coming year be placed in the hands of the executive committee with power to act.

It was voted that the President, Secretary and Treasurer of the Society be given power to act in the matter of the prosecution of the chiropractor soon to be tried at Burlington and spend a sum not to exceed one hundred dollars if they deem it advisable.

The matter of making a permanent home for the society was then discussed and the motion to make Burlington a permanent home for the society was lost.

Meeting adjourned.

(To be concluded in January, 1918)

TRUSTEE APPOINTED FOR THE HENRY D. HOLTON TRUST FUND

The Vermont National Bank of Brattleboro, of which Dr. Holton was President at the time of his death, has been appointed Trustee *vice* Geo. C. Averill, deceased. The appointment was made by mutual consent of the Executors of the will of Dr. Holton and the Vermont State Medical Society. The Exeuctors were Henry Bond and R. C. Clark, while the Society was represented by the Treasurer who was authorized to act for the Society at the annual meeting in October.

Discussion of Dr. Caverly's paper at Barre, October 11th, 1917. Paper published last month.

President Beecher:

The discussion of this paper will be opened by Dr. Tinkham.

Dr. Tinkham:

I only just got here to hear the end of the paper. I did not know that I was to discuss the paper until I picked up the program yesterday so that I have not had any very extended time to discuss this matter with myself.

Certainly no one could have been sitting for the last two months on the District Board and reading affidavits of physical unfitness for military service without being impressed with the fact that—I was going to say terrible fact—that this country is being peopled by a class who are physically below normal and that they are deficient away beyond what any Nation which is to take the leading place in the civilization of the world should be.

There are two things that appeal to me as being very pertinent to the remedying of this condition. I do not think we need to discuss the condition more. In fact I am inclined to believe that the less these things are discussed the better, provided they are discussed sufficiently to relieve the condition. One of the things which appeals to me is along the line of prevention and the other along the line of cure. One we might say was prenatal influence and the other was the remedying of such deficiencies as we find had occurred. So long as the making of the human race depends entirely upon sentimental reasons just so long we are going to breed physically deficient people. Until there is a line of education which makes the young man and the young woman who are contemplating marriage appreciate that there is some practical thing in connection with marriage; until they appreciate the importance of producing healthy individuals and just so long as that is controlled entirely by sentimental conditions just so long we are going to breed physically deficient children. Consequently, one line would be in the education of young people to the practical side of the making of human beings. That is a pretty big job. The second is what can we do with the physically deficient that we have and that we always will have. There are some of these conditions which are purely local conditions with reference to the individual, like the poor teeth. That is a matter which could be remedied very largely simply by teaching the children how to take care of their teeth. A large part of the bad teeth might not be if the children were taught the proper hygiene of the mouth. There are many local physical defects which should not be allowed to exist. The ordinary sentiment of the public in regard to the care of hernia is a ridiculous proposition but so long as that popular sentiment exists people are going to continue to go about all their lives with hernia when it is entirely unnecessary. The whole thing comes in the line of educating the people in regard to the proper care of themselves all along the line. Local conditions should be properly cared for. Other general systemic conditions should be looked after and I cannot conceive of anything which will tend more to the general improvement of the physical condition of the young people of this country than universal military training.

President Beecher:

It isn't often that we go outside our

society in the discussion of medical subjects, but since this has some bearing upon other lines I take a very great pleasure in introducing Mr. Hollister Jackson, of this city, to discuss this paper from a lawyer's standpoint.

Mr. Jackson:

Mr. President, Drs. Caverly and Tinkham, and Doctors: I notice on the program that I have been given a prefix. I notice that I am put down as "Mr." and that Dr. Tinkham and Dr. Caverly have dropped their M. D.'s. Although you have added to my name a prefix different from the others, I assure you—and I know you will heartily agree with me—when I say that I could not add anything to Dr. Caverly's fine paper.

I have read with a great deal of interest in the different magazines the reports as to the physical condition of the soldiers, the diseases from which they suffer and so on. In almost every magazine today that you pick up you will see something along those lines, but surely Dr. Caverly in his paper has given us as fine a synopsis and a conclusion to the reading in these magazines as we could possibly obtain, but I have one criticism to make of Dr. Caverly's paper; not as a paper, but it is this: The circulation is not big enough. It is quite customary in conventions for some one to deliver a fine address, well thought out, with suggestions that are full of merit and ought to be followed but it stops there.

I notice your motto on your program: "*Non pro nobis laboramus,*" "Not for ourselves do we labor." I suppose that is the negative way of putting the fact that you labor for the public as a medical society. Now, do you so labor for the public when such a paper as Dr. Caverly has read here this afternoon does not reach the public? He spoke of preparedness. The only way that we can prepare the public for the measures suggested in his paper, for any measure of public good, is first to educate the public. It is the public that opposes the legislation that is sought in order to enforce these good ideas. You know there is a difference between a Democracy and a Monarchy. In a Monarchy it is one person, or a very few, that decide on the measure for the public good and then seek its enactment. In a Democracy it is the people that decide on the measure and they must be first taught the necessity of the measure before they will pass it, but a Democracy has this advantage over a monarchy and that is that the people having been educated in the idea and having themselves passed the measure will more easily and sucessfully respond to it and obey it. Now how is your Vermont Medical Society going to spread this Gospel of physical preparedness—this Gospel of war against uncleanliness in the lines that Dr. Caverly has spoken of today? I think if you answer that question as a medical society and answer it successfully you will accelerate the time when these things that the doctor has spoken of will come to pass, or will largely come to pass. You have a state paper, *Vermont Medicine.* I assume that the circulation of that paper is largely among the physicians. I very seldom have seen it in the hands of what you might call "laymen." Now why isn't it there? Why shouldn't it be there? Why shouldn't in *Vermont Medicine* several columns be written couched in simple language, not technical, in which subjects such as these in Dr. Caverly's paper, in which I noticed with a great deal of pleasure that there were only a few unpronounce-

able technical words, why shouldn't some columns be devoted to these matters and then some method obtained for the distribution of your state journal more thoroughly among the citizens of this state; perhaps giving it to them free for the time being, perhaps giving it to them for actual cost? The minister has his pulpit and the press, the lawyer has the court room, and perhaps too often the press, but the doctor has nowhere to speak his views and therefore he usually keeps his views. The doctor, individually, is modest, very diffident, but that is no reason why the State Medical Society should not cast off some of that individual diffidence of the doctors and as an aggregate become a little more active in spreading these ideas through the state.

I have seen doctors at the legislature endeavoring to persuade men from the farms, representatives, who were trying to convince them of the advisability of adopting a certain health measure. These I think were carrying out this campaign of education. How much easier would it have been for them, how much quicker would the results be and how much more easily would results be obtained, if you doctors as a society could get at these men on the farms, get at those business men in the cities, get at men of other professions through your society through some such means and thus carry on this campaign of education, which is absolutely essential to preparedness?

This is not said in any spirit of criticism either of your journal or of your society, but it is said purely and simply for the purpose of leaving it as a suggestion.

I have read some in a book and I think it was entitled "Microbes and Men." Very interesting book it was to me because in that book that physician had eliminated the technical terms of his profession and had spoken in a conversational way as man to man about these problems, some of which Dr. Caverly has spoken of in his paper, one of which, in particular, Dr. Tinkham has spoken of, the question of marriage, birth control and other things. I do not believe that there can be too much publicity given to those things. I think the trouble with the medical society, if I may go so far as to say that, is that you do not give enough publicity.

You get the people educated in these lines, your school boards, by these pamphlets by doctors like Dr. Caverly, sent out broadcast to your school boards and other people in the state and you will obtain through the legislature any measure that you want and that you can prove is for the greatest good because under the Public Welfare Clause of the Constitution you can pass any measure that will stand the test of being for the greatest good of the greatest number so I would simply suggest, Mr. Chairman, that the State Medical Society in not laboring for themselves, do, in laboring for others, tell the others what they are laboring for.

President Beecher: I am sure we appreciate the perfectly just criticism of Mr. Jackson.

Is there further discussion? It is an important subject and it ought to be thoroughly discussed.

Dr. Bryant: I do not feel like going away without expressing my feeling of pleasure and appreciation to the doctor for the most excellent paper that he has given us. I would like to add just one fact to what he has given us and that

fact has come to my knowledge within the last two or three days in regard to the examination of this draft army in addition to the physical disabilities that have been found and the percentage of men that have been thrown out. Our local boards have received notice from Massachusetts that in addition to the examination already made they have instituted further tests and that they are now going over those men again and examining them for mental disability and they are finding on an average of about ten or twelve in every thousand that are to be returned in addition to the physical disabilities which have already been found and the large percentage that have already been returned. That means something over 1% more that will be rejected on that examination and they are asking us what they shall do with those men. It does not seem reasonable to me that these men passed our local board and went down there practically insane. I do suppose that the men with the pre-disposition or hereditary taint, as I have before referred to it, under the new conditions of living develop this to an extent that is noticeable by this board that is going over the armies.

Dr. Dervin: I think I heartily concur with two of the speakers at least and with all. I think we do need a whole lot more public education along these lines and it is very much needed. For instance a year ago at the request of Dr. Dalton I had inserted in my village warning to see if the town would vote an appropriation for medical inspection of the schools. What do you think the argument was that I got against it? When it was put before the meeting a man got up and in a sarcastic way asked them not to pass on the motion, but to lay it on the table, because the medical inspection of schools was the greatest aid to the white slave traffic that there was. When people feel that way about it I think they do need education.

I notice that in the report of the Committee on Health and Public Instruction the Chairman asked for an appropriation to carry on the work of this committee. I think that the education of the people in this state along these lines belongs to that Committee on Health and Public Instruction and we should appropriate to them sufficient funds to carry on their campaign and in that way you will get some results.

Now that committee a year ago under Dr. Marshall's chairmanship tried to carry along the instruction of the public in the medical matters, especially along the line of contagious diseases. The result was that when they got good speakers to cities the size of Rutland they had hardly what you would call a decent audience to listen to them. We had one lecture in Poultney and do you know what we did? We gave them a free moving picture show and held the lecture first and they had to stay for the lecture in order to see the moving pictures. The people do not want to go to listen to medical lectures. They do not want to be instructed in medical subjects. If you had advertised that Dr. Caverly would deliver this paper here this afternoon I'll bet you wouldn't have had an audience of 200 people to listen to it. That is not uncomplimentary to Dr. Caverly, but the people do not want to attend these lectures. They don't want to hear about these things and if that paper was printed in a weekly or daily paper in this state there wouldn't 10% of the people who read that newspaper

read that paper of his. We want to instruct them, but we have to instruct them against their wills. We have to carry on lectures and the only way we can get them there is to give them sort of a free entertainment and hold the lecture first. In this way you will get an audience, otherwise, you won't.

Dr. Avery: There was one phase of Dr. Caverly's paper that interested me because I have been engaged in work in this very medical instruction that Dr. Caverly talked about. We have been having medical instruction in Barre Town for several years and I have been engaged in that work and I can both agree and disagree with what Dr. Caverly said in regard to the money being perhaps wasted. In some respects that seems to be true, but as I have carried on that work from one year to another I have been gratified to find a decided improvement in some of the chronic conditions that medical inspection has a chance to cure. There is a chance for much more improvement, but in regard to the teeth for one thing; I find children the last year or so in making an inspection are having their teeth looked after and I find their teeth much better cared for than they were three or four years ago and the same with tuberculosis. The first year that I was doing that work I scarcely entered a school but I found many cases. This year I am finding very few of them.

Dr. Jenne: I wish to congratulate Dr. Caverly upon his most excellent paper suggesting many interesting things, any one of which might very readily occupy all the time that we have to discuss it.

There are one or two points upon which I do wish to comment. Let me first, however, assure Dr. Caverly and this meeting that whatever I may say is in no way intended to be a criticism, indeed I heartily concur in all that he has said about the necessity of our school inspection. I think it serves a very useful purpose. I am in entire accord with the doctor, but this point occurs to me and I wish to make some comments upon it. I refer to what seems an extraordinary percentage of defective candidates for the army. Is it possible that approximately one-half of our young men between twenty-one and thirty-one are subject to such defects physically as should disqualify them from serving in the army? Now I am familiar with the view point of the civilian bearing upon the status of such defective men and their service in the army and the requirements or the rules governing these requirements and with the military medical man's view point with respect to these men, but are they right? Are they necessarily right? Is there no other view point? We had a very interesting discussion of this matter at Rutland last week at the Congress held there. If a man appears before the Board exhibiting any suggestion of a pulmonary defect that defect constitutes a sufficient cause for his rejection, in other words, there is absolutely no place for the suspected tubercular man in the army and he should be rejected. That was the view point of those who had identified themselves particularly in the study of tuberculosis and in the treatment of tuberculosis. It was clearly disclosed what their orders had been from Washington in that respect but in strong contrast was a representative in person, a military medical officer whose duties ever since he has been connected with the army has been chiefly along hygienic

lines, a sanitary inspector, and if we may infer from his very buoyant attitude toward this subject one might easily form an opinion that he thought when the time had passed that all we had to do was to send the purely suspects into the army and it would be a most excellent place for them to get well of tuberculosis. Now is it very strange that the United States through a long period of years with a small army was pretty readily filled from men who could pass for perfect physical development and without defects. It is strange that our medical military men should not have unconsciously come to the view that only such men as were practically free of any physical defect whatever should be taken into the army and haven't they magnified the damage of excepting others. Aren't some of these men who are rejected because they have flat feet running up and down our rivers and chopping wood, quite as strenuous work and calling for quite as good health as a part in the army? Are not a great body of those very same men doing the hard kinds of work in our midst? Dr. Bryant has suggested another examination which they are putting them through and they are going to reject some of them because they are not in a normal state mentally. I think they are rejecting a lot of good fellows and men that would go through the service with credit to themselves and to their country.

There is another argument on my mind and I pass it along as one reflected from several speakers at the Congress that if we are going to send down a lot of men to be shot why not send some of the defects along and not pick out the very best ones.

There is no doubt but that in certain parts of Vermont in the rural communities and far back from the larger centers that inspection of the children would be a good thing and it would very likely bring forth fruit. You may talk hygiene to men and women past thirty or thirty-five years of age until you are black in the face and you will never be able to modify their habits. You get hold of a child and if you make an impression it may not get results immediately, but when that child grows up to be a father or mother then it is that it will bring forth fruit.

Dr. Blodgett: Just one thought. With regard to the suggestion of Dr. Caverly and I would like to express appreciation of his paper with regard to marriage. We are not thinking about the survival of the fittest when we are sending all of our able and perfect males to the front. If there is anything in that, we are leaving all the defectives at home to promulgate society. Many of us who are too old to go to the front, it is our business to look after society at home.

I, too, believe thoroughly in the regulation of marriage and I believe that this society, when it comes to the election of our legislature next session should see to it that we get next to our representatives and that we begin in a reasonable way in Vermont the regulation of marriage. Now let me cite a case in our own town. I am sorry to say that the representative from Rockingham two years ago was an important factor in defeating that legislation, but he was wrong about that in my judgment. I believe that we should begin work and that it is our duty in getting next to our representatives to see that we do begin in some way suitable regulation. Now to cite the instance. An inhabitant of our poor farm proposed to marry a degenerate in our own town,

both families were degenerates and there wasn't a statute any where to touch that situation. The Town Clerk refused to issue the license, but he made himself liable but nobody touched him. Now when it is lawful for two degenerates to marry it is up to this State Medical Society to attend to that business.

Dr. Caverly: I want to express my appreciation of Mr. Jackson's remarks here in regard to the necessity of putting out broadcast facts, exact facts, in regard to legislation and the need of legislation along certain health lines and also to make a remark or two in regard to medical inspection.

What I have said in regard to medical inspection does not begin to cover the ground that it would perhaps ordinarily if I had unlimited time, but with regard to the remedies that should be applied to rearing the young men for just this sort of thing, this selective draft. Eugenics, child hygiene, public welfare and regulation of marriage, which Dr. Blodgett has referred to here, they are certainly important. We have, however, in this state legislation in regard to medical inspection and what I wanted to convey here today to the members of this society was the limitation of the legislation and the enforcement of the law and to indicate very briefly what I conceived to be a more practical plan and that is to have medical inspection in every town in the state, not confined to a dozen towns, or twenty towns, but covering the whole 240 towns in the state and have the units correspond with the present superintendent units. Perhaps some of you physicians are aware of the fact that the Commissioner of Education and the State Board of Health received an appropriation of something like ten thousand dollars for the purpose of prosecuting a campaign along the line of school dentistry in Vermont and you will perhaps be surprised to learn of the objections that came up in talking with one of the dentists. He said that certain doctors in the state, not dentists, but certain physicians in the state would be very apt to criticize him and his work because it took a certain amount of extraction out of their hands and we advised him that when he went to a town for that purpose that he should go and see the physician and that he should find out definitely if he did that sort of work and when he found cases in the school that required that work to send them to that doctor. Of course that is a rather exceptional and possibly narrow view to take of such work. We were very fortunate in being able to send out a young man to the rural districts of this state to do something that is very much needed along one particular line indicated by this draft examination.

I haven't undertaken to cover the field but the necessity of making a law that is effective and that is comprehensive and covering the whole subject and that will yield results is very evident to anybody observing the work of medical inspection so far in Vermont and the doctors in the state, as Mr. Jackson has said so nicely, have it in their power to exercise a great deal of influence on legislation at Montpelier if they are a mind to. If they will see their representatives, if they will attend public meetings and if they will do talking themselves. Dr. Derven can do talking down there in Poultney. Just as certain as the world if Dr. Derven follows that up he will get medical inspection in Poultney very shortly. I appreciate Dr. Avery's point of view and I know of two or three places where they are doing good work but they are rare exceptions and the most of that work that is done now is comparatively useless.

Book Reviews

White and Martin's Genito-Urinary Surgery and Veneral Diseases, by Edward Martin, A. M., M. D., F. A. C. S., John Rhea Burton, Professor of Surgery, University of Pennsylvania, Benjamin Thomas, A. M., M. D., F. A. C. S., Professor of Genito-Urinary Surgery, Polyclinic Hospital and College for Graduates in Medicine, Instructor in Surgery, University of Pennsylvania, and Sterling W. Moorehead, M. D., F. A. C. S., Assistant Surgeon in the Howard Hospital, Philadelphia, Pa., cloth, Price $7.00 net, 929 pp., with 422 engravings and 21 colored plates. Philadelphia, J. B. Lippincott Company.

This valuable text book has recently come to its tenth edition, rewritten and reillustrated and in every way a new, up-to-date volume. The original authors now have Drs. B. A. Thomas and S. W. Moorehead associated with them as collaborators. Many new features are presented such as chapters on vaccines and serums, high frequency dessication, tests of renal function, laboratory diagnosis of syphilis, etc. The many advances in genito-urinary surgery of the seven years since the last edition of this work came out are well covered. The chapters on the examination of the patient, examination of urine and stricture of the urethra are valuable for the general practitioner while many other chapters are of greater interest to men doing special surgery of this tract. The last 200 pages are devoted to syphilology and form a valuable handbook on the subject. The diagnosis, course, complication and the various manifestations of the disease are considered and the treatment is presented in a very fearless manner. On the whole this volume is worthy of a place on the shelf of both the general practitioner and the genito-urinary specialist.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1916. Cloth. Price, postpaid, 50 cents. Pp. 87. Chicago: American Medical Association, 1917.

This volume contains the reports of the Council which were adopted and authorized for publication during 1916. It includes reports of the Council previously published in *The Journal of the American Medical Association* and also reports which, because of their highly technical character or of their lesser importance, were not published in *The Journal.*

In this volume the Council sets forth the reasons for the rejection of the articles which were examined and found ineligible for New and Nonofficial Remedies. It also explains why certain preparations included in previous volumes are not contained in the latest (1917) edition of New and Nonofficial Remedies. Physicians who wish to be informed in regard to the status of proprietary and unofficial remedies should have the volumes of the Council Reports, in addition to New and Nonofficial Remedies.

New and Nonofficial Remedies, 1917, containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to Jan. 1, 1917. Cloth. Price, postpaid, $1. Pp. 412 + xxiv. Chicago: American Medical Association, 1917.

This book lists and describes the non-

secret proprietary remedies that have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. It also describes the newer non-proprietary remedies which give promise of some real value that have been accepted by the Council. Each description includes the chief facts physicians desire to know concerning composition, dosage, indications, cautions to be observed, etc. The book also contains general articles which compare the value of the proprietary remedies with the established drugs they are intended to supplant. Every physician who wants to keep abreast of the times should have a copy of this annual.

Kentucky Medical Journal, historical number.

Kentucky may be the Blue Grass State of the Union but it certainly does not grow under the feet of the Medical profession of the State. Witness: The November issue of the Kentucky Medical Journal.

This is an historical number edited by Dr. J. N. McCormack. This book of 173 pages with 119 illustrations, after a foreword by Dr. McCormack, devotes many pages to a biographical history of Dr. Ephraim McDowell, the pioneer ovariotomist. Then the further medical history of the State is presented in a very attractive form. The Kentucky State Medical Association has reason to feel proud of such a past.

News Notes

Dr. S. W. Hammond of Rutland, who has been ill with lumbago and neuritis, continues to improve. He has returned home from the Proctor hospital where he spent a few weeks for treatment.

The annual meeting of the New York and New England Association of Railroad Surgeons held at the Hotel McAlpin, New York, Nov. 8, was attended by many Vermont Railroad Surgeons. Dr. J. Sutcliff Hill of Bellows Falls was elected President and Dr. Jas. M. Hamilton of Rutland, Treasurer of the Association.

On Sunday, November 11th, such members of the Vermont State Committee of National Defense, Medical Section, as could be summoned by telephone, met with Governor Graham at Montpelier to advise with him in his nomination to the President of the members of six Medical Advisory Boards to serve under the Selective Service Regulations prescribed November 8th.

It is recommended that all First Aid Red Cross Instructors in the State of Vermont charge for the instruction of classes. The charge should be from $25.00 to $50.00 (Dr.'s fee) for the course and examination. This has been done in other states and has been found to increase the interest both of the instructor and the members of the class. All instructors have to be appointed annually. Appointments for this State are made by Dr. E. G. Twitchell, 125 St. Paul St., Burlington, Vermont, Chairman First Aid Committee for State of Vermont.

All reports should be made to his office.

It is with deepest regret that we announce the death of Dr. Charles W. Howard of Shoreham at his home. Dr. Howard had been in poor health for sometime and seemed very feeble at the Barre meeting but his death at this time will be a distant shock to his many friends in the society. Dr. Howard was the vice-president last year.

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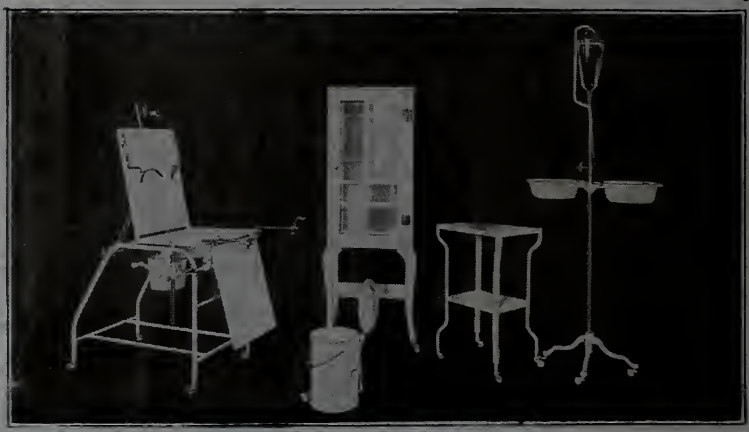

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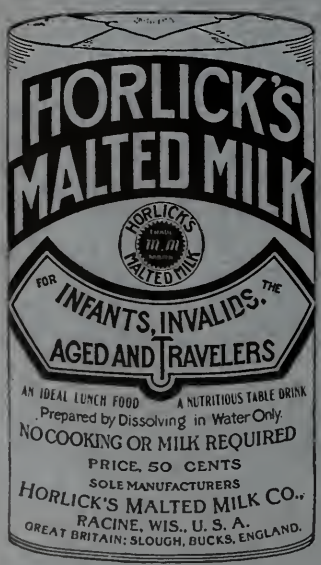

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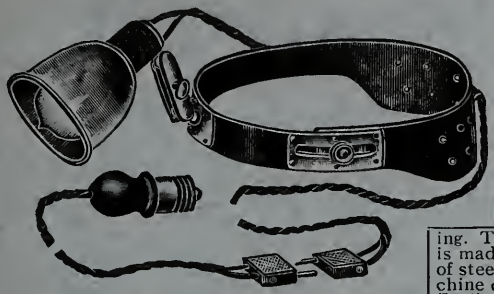

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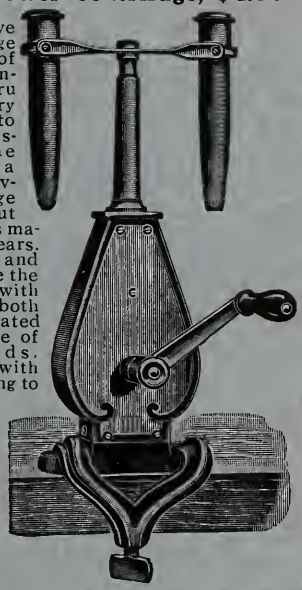

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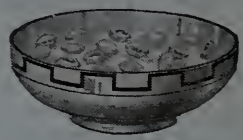

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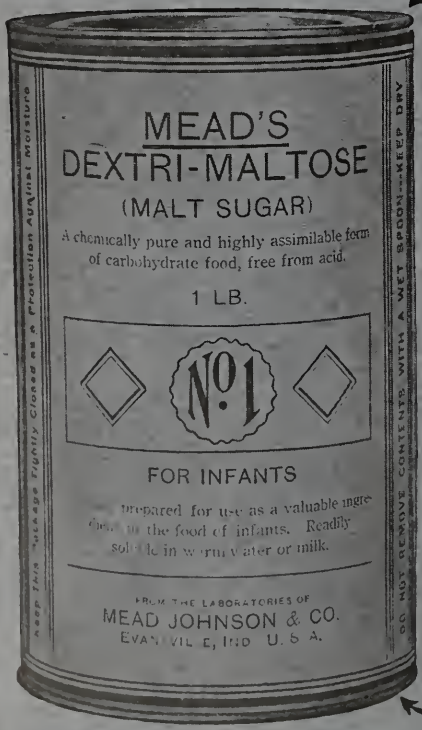

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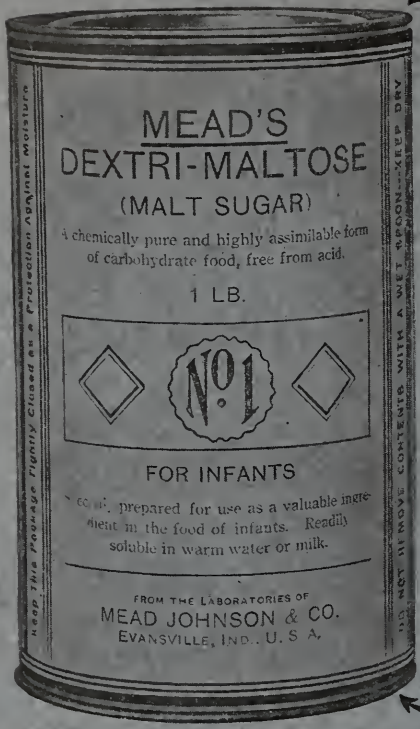

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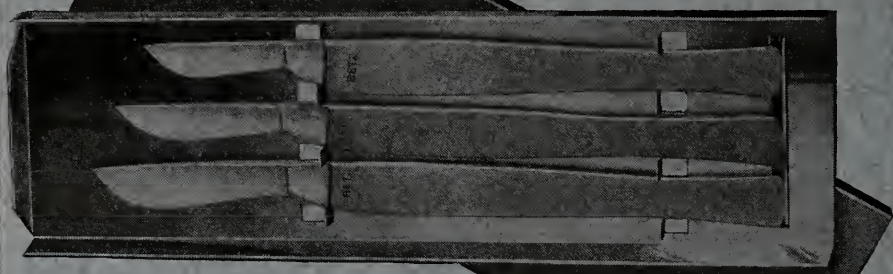

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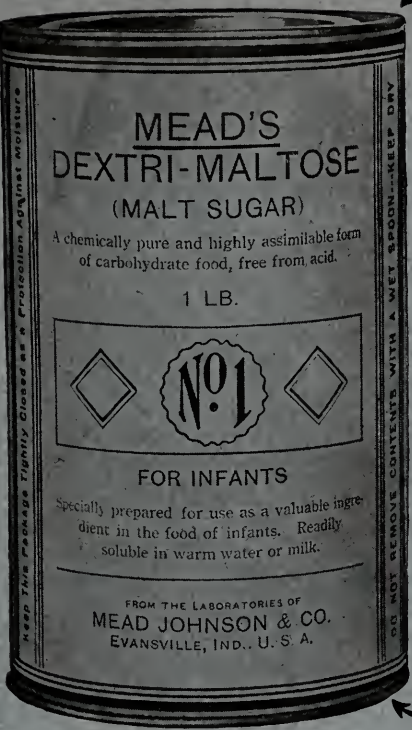

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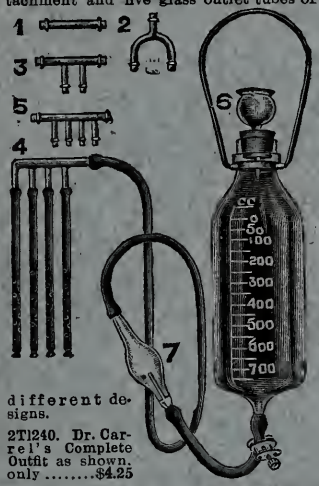

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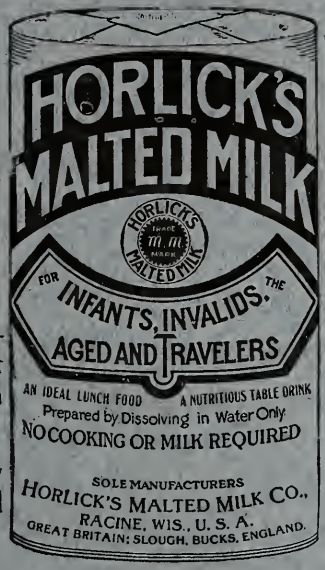

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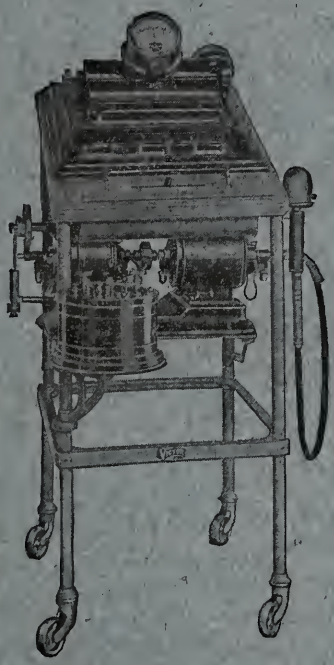

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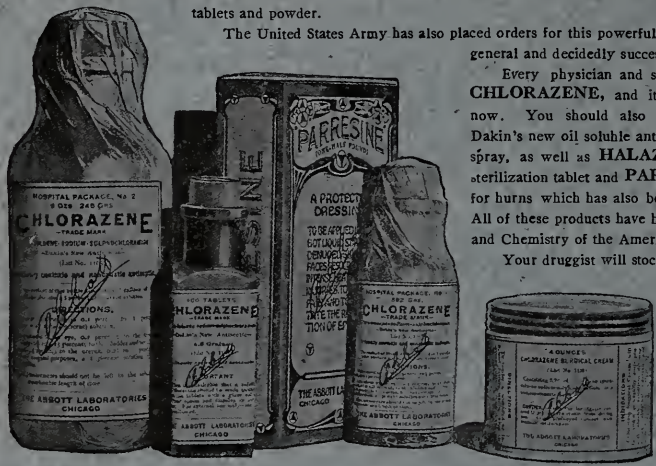

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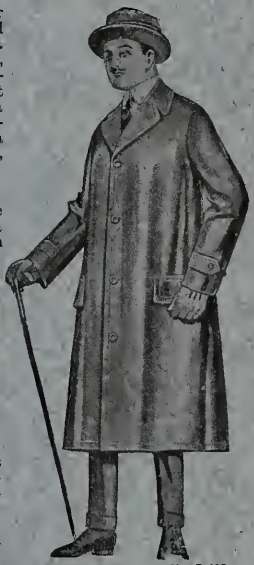

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